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SCHIZOPHRENIA AND PARANOID PSYCHOSES AMONG COLLEGE STUDENTS[1]

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In a previous study(1) it was brought out that schizophrenia and paranoid disorders taken together made up approximately one-half (49.1%) of the psychoses noted among students at the University of Michigan over a seven-year period. It is the purpose of the present communication to report in detail on the total of 102 patients with schizophrenia and 20 with paranoid psychoses[2] coming to attention during the twelve years the mental hygiene unit of the Student Health Service has functioned on a full-time basis, that is, from September 1930 to September 1942.

The total University enrollment during this period was 158,766 with a yearly average of 13,231,[3] of which 8.2% had been seen by the mental hygiene service. In terms of this average enrollment, schizophrenia occurred in 1 of 655 of the student population annually, and paranoid disturbances in 1 of 3070. Of the 9029 students given attention by the mental hygiene service during this twelve-year span, schizophrenia was noted in 1 of 88.4 (1.13%), and paranoid psychoses in 1 of 451.4 (0.22%). For comparison it may be of interest that over an eleven-year period, manic-depressive psychosis(2) occurred in 1 of every 104 students seen (0.96%). Similarly, convulsive disorders(3) over a nine-year period accounted for 1 of every 90.3 (1.11%).[4]

TABLE 1

ANNUAL INCIDENCE OF NEW CASES

	Schizophrenia			Paranoid psychoses			
	Men	Women	Total	Men	Women	Total	Total
1930-1931 *	5	4	9	0	1	1	10
1931-1932	4	1	5	0	2	2	7
1932-1933	1	2	3	1	3	4	7
1933-1934	4	2	6	2	0	2	8
1934-1935	6	2	8	0	1	1	9
1935-1936	8	0	8	0	2	2	10
1936-1937	3	3	6	0	1	1	7
1937-1938	6	5	11	0	2	2	13
1938-1939	7	3	10	0	3	3	13
1939-1940	8	7	15	0	1	1	16
1940-1941	8	7	15	1	0	1	16
1941-1942	2	3	5	0	0	0	5
1942-1943 †	1	0	1	0	0	0	1

* Not including summer session.
† Including only summer session.

As indicated in Table 1, the number of new cases in the schizophrenic-paranoid group coming to attention each year ranged from 5 to 16, the average being 8.5 for schizophrenia, 1.7 for paranoid disturbances, and 10.2 for the total series. This is equivalent to 0.64 new schizophrenic cases per 1000 enrolled students, 0.13 for paranoid psychoses, and 0.77 for both disorders taken

[1] From the Mental Hygiene Unit, Student Health Service, University of Michigan, Ann Arbor, Mich.

[2] Here used in a collective sense, without attempt to differentiate between paranoia and paranoid conditions so termed. Also, in this series, paranoid reactions associated with or symptomatic of other conditions, as certain alcoholic disorders, have been excluded.

[3] Based upon the number of students paying University Health Service fee.

[4] For the twelve-year period, manic-depressive psychosis occurred in 1 of every 102.6 students seen (0.97%), and convulsive disorders in 1 of every 95.0 (1.05%).

together. If reopened and continued cases are included, the gross average annual rate is 15.6 for schizophrenia, 3.8 for paranoid disorders, and 19.3 for the two combined.[5] The apparently higher proportion of schizophrenic cases noted from 1937 up to the time of the entry of the United States into the war[6] is of interest, and perhaps significant.

Of the 102 schizophrenic students in the present series, 63 (61.7%) were men and 39 (38.2%) women. In the smaller group of paranoid disorders, there were only 4 men as opposed to 16 women. The ratio of men to women for schizophrenia was 1.63 to 1, for paranoid psychoses 0.25 to 1, and 1.22 to 1 for both. These ratios all reflect a definitely higher relative incidence for women when compared with the men-to-women ratio, 2.16, obtaining for the university as a whole over the twelve-year period. In this connection, the somewhat greater measure of supervision and contact obtaining for women in the university context generally, especially during the earlier years of this study, may possibly be of significance.

The men-to-women ratio previously reported for psychotics of all types(1) was 1.28 to 1, and for manic-depressives and epileptics over the twelve-year period, 0.66 to 1 and 2.95 to 1 respectively. Thus of these three major conditions, epilepsy is the only one in which the incidence among men is relatively higher. This latter, it may be mentioned, is in line with findings bearing upon the incidence of epilepsy among men and women for the population as a whole(4). At the other extreme, although the number of our paranoid cases is small, it would appear that women in this category, in terms of the university ratio of sex distribution, predominate over men in the proportion of 11.1 to 1.

It may also be of interest that 43 (42.2%) of the 102 schizophrenics when first seen were in the actively acute phase of the disorder, with the conditions of the remaining 59 (57.8%) further advanced, *i. e.*, post-acute or chronic. Among the men, the proportion of acute to chronic cases when first seen was 29 to 34, and for the women 14 to 25. This suggests that for the latter there may be some tendency for the process to be relatively more advanced by the time it has been brought to light in the university situation.

The age distribution for this series of patients when noted as psychotic is shown in Table 2. From this it will be seen, as might be anticipated, that the ages when post-acute and chronic schizophrenic states came to attention were definitely somewhat greater than for patients in the acute phase. Most striking however, and also to be expected, is the contrast between the ages noted for schizophrenic and paranoid disorders, patients presenting the latter having been older by a decided margin, average 11.6 years, median 13.0 years. This difference further appears to have been rather more marked for women than for men.

A classification of students according to the schools or colleges in which they were enrolled is presented in Table 3. Outstanding here, as is to be expected, is the relatively high incidence of schizophrenia, particularly acute cases, in the College of Literature, Science and the Arts; also the rather low rate for students in the Graduate School respecting schizophrenia as a whole, but with decided preponderance of chronic conditions, and the definitely high representation from this school for paranoid disorders. Further, although the numbers are admittedly small, the quotas in our schizophrenic series are rather high for the School of Music and the Colleges of Architecture and Design. Also, the School of Education shows a rather high incidence of paranoid psychoses and the Law School for both this type of disorder and schizophrenia.

Table 4 indicates the mode of referral to the mental hygiene unit of the students comprising this series. All but 13, it should be stated, were psychotic at the time of first contact. Eleven who later developed acute schizophrenic episodes and 2 who subsequently became paranoid had been previously referred by Health Service physicians or came voluntarily for counsel relative to dis-

[5] Equivalent to 1.18 per 1000 of student population for schizophrenia, 0.29 for paranoid conditions, and 1.45 for both conditions combined.

[6] All five cases, incidentally, for 1941-1942 (see Table 1) came to attention during the forepart of the academic year, *i. e.*, between September 1941 and mid-January 1942.

TABLE 2

AGE DISTRIBUTION

	No. of cases	Range	Average	Median
Schizophrenia—all cases:				
Men	63	17–31	21.6	21.0
Women	39	18–43	23.2	21.0
Both men and women	102	17–43	22.2	21.0
Schizophrenia—acute cases:				
Men	29	17–24	20.4	21.0
Women	14	18–28	19.9	19.0
Both men and women	43	17–28	20.3	20.0
Schizophrenia—post-acute and chronic cases:				
Men	34	18–31	22.5	21.0
Women	25	18–43	25.1	21.0
Both men and women	59	18–43	23.6	21.0
Paranoid psychoses:				
Men	4	23–39	31.7	32.5
Women	16	19–54	34.5	34.5
Both men and women	20	19–54	33.8	34.0
Schizophrenia and paranoid psychoses combined:				
Men	67	17–39	22.2	21.0
Women	55	18–54	26.5	21.0
Both men and women	122	17–54	24.1	21.0

TABLE 3

DISTRIBUTION AMONG SCHOOLS AND COLLEGES OF UNIVERSITY

	Schizophrenia										
	Acute		Post-acute and chronic		Total		Paranoid psychoses		Both disorders		University as a whole
	No.	%	No.	%	No.	%	No.	%	No.	%	%
Literature, science and the arts	25	58.1	23	38.9	48	47.5	7	35.0	55	45.1	32.9
Graduate	1	2.3	16	27.1	17	16.6	9	45.0	26	21.3	27.5
Engineering	4	9.3	7	11.9	11	10.7	0	0	11	9.0	10.8
Law	5	11.6	1	1.7	6	5.8	2	10.0	8	6.6	3.4
Music	0	0	6	10.2	6	5.8	0	0	6	4.9	1.4
Architecture	3	7.0	1	1.7	4	3.9	0	0	4	3.3	1.8
Medicine	3	7.0	1	1.7	4	3.9	0	0	4	3.3	3.1
Education	0	0	1	1.7	1	0.9	2	10.0	3	2.4	2.3
Others	2	4.7	3	5.1	5	4.9	0	0	5	4.1	16.8

TABLE 4

SOURCES OF REFER

	Schizophrenia									
	Acute		Post-acute and chronic		Total		Paranoid psychoses		Both disorders	
	No.	%	No.	%	No.	%	No.	%	No.	%
Health service physicians	20	46.5	29	49.1	49	48.0	13	65.0	62	50.8
Faculty (including 27 with administrative function)	7	16.3	22	37.3	29	28.5	5	25.0	34	27.9
Self-referred	6	13.9	5	8.5	11	10.8	2	10.0	13	10.7
"Outside" physicians (including one psychiatrist)	2	4.7	1	1.7	3	2.9	0	0	3	2.5
Parents (5) and friends (5)	8	18.6	2	3.4	10	9.8	0	0	10	8.1

turbing personal problems. As mentioned in previous communications, the number of cases referred directly by relatives and other than Health Service physicians is regrettably low. In only one case, actually, was there direct referral by an "outside" psychiatrist. It is significant that at the time of first contact over half of the patients in this series complained of symptoms indicative of long-standing mental or emotional disturbances. In one-third, the chief complaints and focus of attention were concerned with some physical disorder, and in the balance, difficulties were primarily centered about academic and social adjustments. It is of interest too, and not altogether surprising, that more chronic schizophrenics (37.3%), also paranoid cases (25.0%), came to attention through faculty personnel than cases of acute schizophrenia (16.3%).

TABLE 5

TIME CAME TO ATTENTION AS PSYCHOTIC

	Schizophrenia						Paranoid psychoses				Both psychoses			
	Acute		Post-acute and chronic		Both phases of schizophrenia Both sexes									
	Men No.	Women No.	Men No.	Women No.	No.	%	Men No.	Women No.	Both sexes No.	%	Men %	Women %	Both sexes No.	%
First two weeks....	1	1	5	5	12	11.8	0	0	0	0	8.9	10.9	12	9.8
Second two weeks..	0	2	4	2	8	7.8	0	6	6	30.0	5.9	18.2	14	11.5
Second month	5	0	0	5	10	9.8	1	3	4	20.0	8.9	14.5	14	11.5
Third and fourth months	2	2	5	4	13	12.7	1	0	1	5.0	11.9	10.9	14	11.5
During second semester	4	2	6	3	15	14.7	1	3	4	20.0	16.5	14.5	19	15.5
During second year.	7	4	6	3	20	19.6	0	0	0	0	19.5	12.6	20	16.5
Third through fifth year	10	3	8	3	24	23.5	1	4	5	25.0	28.3	18.3	29	23.7

As shown in Table 5, the patients comprising this series came to attention as psychotic at times ranging from the first week to five years after admission to the university. For the series as a whole, 44.3% were referred for psychiatric attention during the first semester, and a total of 59.8% were seen in the mental hygiene unit before the end of their first year of residence. Fifty-five percent of the paranoid cases, incidentally, and 42.1% of the schizophrenics had been seen during the first semester; and by the end of the first year, 75.0% of the paranoid psychoses and 56.8% of the schizophrenic group. Cases among women, it should be added, seem to have come to attention rather earlier than cases among the men, 68.1% of the former having been seen within the first year as opposed to 52.1% for the latter. Bearing upon this, of course, among other possibilities, is the greater incidence of paranoid and post-acute schizophrenic disorders noted among the women. Also, as might be anticipated, 66.1% of the chronic schizophrenics had been seen by this time as opposed to but 44.2% of the acute cases. In some degree this can be attributed to the fact that for the latter in a number of instances, the psychosis had not developed, at least overtly, during the first period of residence. While from a clinical point of view, the majority of schizophrenic-paranoid psychoses were discovered reasonably soon after admission, it would of course have been desirable from the standpoint of the best interests of all concerned if the percentage could have been even higher. This, of course, serves strongly to emphasize the importance of early contact with all students and attention to all conditions, mild as well as severe.

An analysis of the impressionistic personality ratings recorded in connection with the brief inspection contacts routine at the time of entrance, may here be of interest. The number of students in the present series seen in this way was 88 or 72.1%. Of the 77 schizophrenics so rated, 43 (55.8%) were unsatisfactory, 21 (27.2%) were doubtful, and only 13 (16.9%) were considered satisfactory. Incidentally, 36 of the 40 chronic

schizophrenics received unsatisfactory or doubtful ratings. Of 11 with paranoid psychosis, 5 were unsatisfactory, 2 were doubtful, and 4 were satisfactory. Thus the combined total of unsatisfactory and doubtful ratings for schizophrenia reached 83.1% (79.5% for men and 89.3% for women), and in the smaller number of paranoid cases who were rated, the questionable fraction was 63.6%. From the foregoing it is plainly evident that it is possible to gain an impression regarding psychotic and psychotic-potential situations, as well as other conditions, through this type of early contact even though brief. This represents a point in procedure without question of vital importance respecting the effectiveness and significance of any college mental hygiene program.

In this connection, it is interesting that on the medical history blanks submitted at the time of entrance only 60 schizophrenics and 7 paranoid students checked such items as "nervousness" and "tendency to worry." This represents but 56.7% of the total of 118 students of this series for whom these blanks were available. Also, of the 59 schizophrenics in whom the process was chronic at the time of admission, only 1 man and 6 women indicated that they had had a "nervous breakdown." Two paranoid women also checked this item. The proportion of patients who indicated they had or were still having subjective awareness of neuropsychiatric symptoms was 63.9% of the schizophrenics and 41.2% of the paranoid cases filling out the history form. Incidentally, of the student population as a whole, as measured by 2302 in the entering class of September 1940, the proportion checking such symptoms stood at 42.6%. It would seem, therefore, that for the purpose of accurate evaluation respecting the types of conditions here considered, the usual blanks or forms alone are not sufficient.

As might be anticipated, in the light of the nature of the disorders constituting this series, intensive and prolonged attention was often required. In fact, the duration of contact with this group varied from a few days to seven years, in the main having been relatively extended. Thus, while 34.4% were seen over a period of a month or less, 31.9% continued under observation between one month and one year, 14.8% were followed from one to two years, 10.6% from two years to three years, and 8.2% from three years to seven years. Also, the number of individual office and bedside visits was on the whole quite high, ranging from one to over a hundred in 2 instances. Actually, considering contacts indicated on the case records over the twelve-year period, the average was 20.4 for chronic schizophrenia, 15.0 for acute schizophrenic states, and 17.9 for paranoid disturbances. For men the average number of these contacts was 14.5 and for the women 22.1 per patient.

Table 6 indicates outcomes in relation to type of care and maintenance of university attendance. Interruptions of attendance, temporary or permanent, were of course a relatively frequent occurrence, rather more so than in the case of manic-depressive conditions. Actually, 11 acute schizophrenics, 27 chronic schizophrenics, and 11 paranoid cases were able to carry on with their programs at least through the specific term, in spite of intercurrent interruptions in 16 instances, for the most part of minor type. Nine additional schizophrenics and one paranoid patient, after having withdrawn with advice respecting interim care, returned within one or two semesters. Thus, in all, aided by regular contacts with the mental hygiene unit, either with or without interruptions in attendance, 47 (46.1%) of the schizophrenics and 12 (60.0%) of the paranoid cases were able to complete at least their specific terms of residence. This category included relatively more women, fitting in with the larger number of paranoid cases in this group (12; 11 women). The greatest mortality, of course, and rather less marked for the women, occurred among the acute schizophrenics, 27 (62.8%) having been forced to withdraw, in contrast to 28 (47.4%) of the post-acute and chronic cases. A total of 35 cases (18 acute schizophrenics, 15 chronic schizophrenics, and 2 paranoid patients) required hospitalization either in private sanitaria or state hospitals at the time of onset or exacerbation of psychosis, and of these, only 3 (schizophrenics) resumed attendance. In contrast to the above, such care was necessitated in only 10 of 79 manic-depressives(2) and of these, 7 were able to resume their university work.

The academic averages given in Table 7

include all grades earned both prior and subsequent to the point when psychotic disturbances came to view. Fifty-three percent of the schizophrenics and 40.0% of the paranoid patients in this series either did unsatisfactory academic work or were unable to remain in the university long enough to complete their courses of study. The women appear to have done somewhat better than the men, explainable largely through their high representation (11 out of 12) in the relatively large number of paranoid cases in the satisfactory and fair categories. For the series as a whole, 49.2% did acceptable work. As might be expected, the academic achievement of the schizophrenic students fell considerably below that of manic-depressives(2), and epileptics(3), of whom 78.5% and 71.4% respectively did acceptably. Those with paranoid disorders also fell below these groups although not to so great an extent, the work of 60.0% having been of acceptable grade.

A final or conclusive statement as to ultimate clinical outcomes is, of course impossible, not only because of the nature of the specific psychopathologic processes here involved, but also and chiefly on account of the difficulty of adequate and authentic follow-up after students have left the campus. However, an inventory as to clinical status on the basis of the last university contact within the twelve-year period is provided in Table 8. Up to this time it will be seen that 38.5% were to various degrees improved, with seemingly a slightly higher pro-

TABLE 6

EFFECT ON ATTENDANCE

	Schizophrenia						Paranoid psychoses				Both psychoses			
	Acute		Post-acute and chronic		Both phases of schizophrenia Both sexes				Both sexes				Both sexes	
	Men No.	Women No.	Men No.	Women No.	No.	%	Men No.	Women No.	No.	%	Men %	Women %	No.	%
Attendance continued:														
With out-patient psychiatric contacts	1	6	13	6	26	25.5	0	7	7	35.0	20.9	34.5	33	27.1
With out-patient and infirmary care	2	0	4	3	9	8.8	1	3	4	20.0	10.5	10.9	13	10.6
After above and a period of sanitarium care	2	0	0	1	3	2.9	0	0	0	0	3.0	1.8	3	2.5
After withdrawal for periods up to one year	3	2	3	1	9	8.8	0	1	1	5.0	8.9	7.3	10	8.2
Attendance discontinued:														
After a period of out-patient psychiatric contacts	2	1	5	6	14	13.7	3	3	6	30.0	14.9	18.2	20	16.4
After out-patient and infirmary care	7	1	2	1	11	10.8	0	0	0	0	13.4	3.6	11	9.0
After above and a period of sanitarium care	12	4	7	7	30	29.4	0	2	2	10.0	28.4	23.6	32	26.2

TABLE 7

ACADEMIC AVERAGES

	Schizophrenia						Paranoid psychoses				Both psychoses			
	Acute		Post-acute and chronic		Both phases of schizophrenia Both sexes				Both sexes				Both sexes	
	Men No.	Women No.	Men No.	Women No.	No.	%	Men No.	Women No.	No.	%	Men %	Women %	No.	%
Satisfactory (C+ and over)	10	7	12	5	34	33.3	1	10	11	55.0	34.3	40.0	45	36.9
Fair (C to C+)	3	1	5	5	14	13.7	0	1	1	5.0	12.0	12.7	15	12.3
Unsatisfactory (below C)	12	5	16	9	42	41.2	3	1	4	20.0	46.2	27.3	46	37.7
No grades received	4	1	1	6	12	11.8	0	4	4	20.0	7.5	20.0	16	13.1

portion in this category of schizophrenic as opposed to paranoid cases. In this category too, there is indication of a slightly lesser representation of women than of men, the former showing a relatively greater percentage of paranoid cases and a somewhat smaller proportion of schizophrenics. Respecting the latter, it may be mentioned, there is evident a relatively higher proportion of acute cases among the women and a lesser representation of cases of post-acute and chronic type.

In addition, and for what it may be worth, from information subsequently coming to hand from time to time, it appears that of the original unimproved category, 20.0% (8 men, 7 women) including 12 schizophrenics and 3 paranoid cases, had become improved,[7] schizophrenic and paranoid cases. Also it included a higher percentage of paranoid women cases. However, for women there was a lesser proportion of chronic schizophrenic cases (28.0%) than for men (50.0%). Here it may be pointed out, this over-all percentage (36.9%) of the total series graduating, continuing, or able to continue stands in marked contrast to that reported for manic-depressives (72.2%) (2) and for students with convulsive disorders (74.3%) (3). Even so, however, the figure for the schizophrenic-paranoid series affords an interesting, although of course not exact, comparison with respect to outcomes for college students in general. Thus in a study covering 60 collegiate institutions in 32 states, McNeely (5) reports that only 37.0% of

TABLE 8

CONDITION ON LAST CONTACT DURING SURVEY PERIOD

	Schizophrenia						Paranoid psychoses				Both psychoses			
	Acute		Post-acute and chronic		Both phases of schizophrenia Both sexes				Both sexes				Both sexes	
	Men No.	Women No.	Men No.	Women No.	No.	%	Men No.	Women No.	No.	%	Men %	Women %	No.	%
Very much improved.	3	0	4	0	7	6.9	0	2	2	10.0	10.5	3.6	9	7.4
Improved ...	7	7	14	6	34	33.3	0	4	4	20.0	31.3	30.9	38	31.1
Unimproved .	19	7	16	19	61	59.8	4	10	14	70.0	58.2	65.5	75	61.5

with the status of the balance, except for 5 deaths,[8] still unimproved (12) or unknown (43). Also, one male schizophrenic in the very much improved group relapsed within a year after graduation and another suicided seven years after, without definite evidence, however, of actual return of the original psychotic disorder. The conditions of the remainder of the improved and very much improved groups, to the extent of the information available, have continued as such (26) or are unknown (19).

Actual status or outcome with respect to the university itself at the end of the survey period, is indicated in Table 9. From this it will be seen that 36.9% of the entire series either graduated, were continuing in attendance, or could continue as far as university requirements were concerned. In this category, it may be added, there were somewhat fewer acute schizophrenic than chronic entering students remain through the fourth or final year.

In conclusion, it appears from this and other work cited that schizophrenic-paranoid disorders have had a higher rate of occurrence than any other psychotic reaction type in the student population at the University of Michigan. Manic-depressive conditions were a fairly close second, both categories together on the basis of a seven-year survey (1) having comprised 93.9 per cent of all psychoses noted. Schizophrenia taken alone had a slightly higher incidence than manic-depressive conditions, with paranoid disorders by themselves a rather poor third.

Also, manic-depressive and paranoid psychoses, and to some extent schizophrenia, showed a relatively greater incidence among the women than among the men. From this, to the extent our experience may be representative, and if the possible influence of the closer supervision obtaining for women has not been a critical factor at least for schizophrenia, there is ground to suppose these

[7] Three very much improved.

[8] Including 2 suicides, 1 while in attendance at the university.

psychotic states may perhaps be more expectable in women's colleges. Also, in this connection, the following order of occurrence may be suggested—manic-depressive conditions, schizophrenia, paranoid disorders. For men's colleges, schizophrenia would seem likely to occur most frequently with manic-depressive disorders and paranoid psychoses following. It would appear too, that more instances of convulsive disorder are likely for men's institutions. Furthermore for institutions with older students, women especially, manic-depressive and paranoid disorders, also post-acute schizophrenia would seem rather a more significant expectancy than in schools of typically undergraduate type. On the other hand, it may be added, a relatively higher incidence of convulsive disorders and acute schizophrenia would appear anticipatable for the latter.

Apparent also from the findings constituting this report, is the importance of a proper screening arrangement enabling the detection of psychotic, psychosis-liable, and other vulnerable material among prospective students prior to admission. Constructive evaluation and advice at this juncture would be unquestionably in the best interest of both applicant and college. Here it should be stressed that, aside from those obviously unfit, merely the fact that an individual seems organically capable of starting the specific academic undertaking at the time, is no assurance by any means that this would be safe or desirable. In addition naturally to the implications of actual clinical status the matter of personal pattern and aptitudes, also extrinsic circumstances, might well render such procedure in a number of instances definitely inappropriate and unsuitable. Likewise, it should be clearly realized, as seems not to be by all, that college represents fundamentally a very real and exacting confrontation rather than a sort of antidote or corrective *per se* respecting situations of personality maladjustment and significant psychopathology. Finally, in this relation, as indicated, it reveals itself as essential that after registration there be provision for early contact with all students and opportunity for

TABLE 9

UNIVERSITY OUTCOMES AT END OF SURVEY PERIOD

	Schizophrenia						Paranoid psychoses				Both psychoses			
	Acute		Post-acute and chronic		Both phases of schizophrenia Both sexes				Both sexes				Both sexes	
	Men No.	Women No.	Men No.	Women No.	No.	%	Men No.	Women No.	No.	%	Men %	Women %	No.	%
Graduated *	4	3	9	4	20	19.6	0	5	5	25.0	19.4	21.8	25	20.5
Continuing in University	2	2	4	1	9	8.8	0	0	0	0	8.9	5.5	9	7.4
Not at present in attendance but with no actual contra-indication to same on basis of University requirements	1	1	4	2	8	7.8	0	3	3	15.0	7.5	10.9	11	9.0
4 with poor scholarship 5 married or accepted positions 2 reason not known														
Unable to continue in University	22	8	17	18	65	63.7	4	8	12	60.0	64.2	61.8	77	63.1
28 because of psychiatric status 44 because of psychiatric status and scholarship or other administrative reasons 5 deceased (2 suicides)														

* Including 9 from graduate school.

adequate attention to all conditions, the mild and incipient as well as the more striking or severe.

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SOCIOLOGICAL CHANGES PREDISPOSING TOWARD JUVENILE DELINQUENCY [1]

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The observations made during the last war and confirmed by our present day experience indicate that those individuals who develop disabilities of a psychological nature during military service have frequently shown a marked neuropathic predisposition for a long period before entering service. In only a relatively small number of these cases can military service be considered other than as another factor exaggerating an already existing weakness. This conclusion seems justified inasmuch as a preponderance of the neuropsychiatric casualties occur during the first few months of service, and as four out of five give a history indicating personality deviations and neurotic predispositions which had been in evidence for a period of five years before service.

It is generally recognized that army life imposes certain definite restraints, and limits very materially the ordinary freedom of the individual. He is called upon to submerge or relinquish many of his individualistic and egotistic tendencies for the welfare of the group, and subordinate his own desires in order that the efficiency of the military organization may be maintained. Restrictions are imposed upon many of the instinctive and spontaneous impulses toward speech and action. There are fewer outlets for expressing resentments and frustrations. Less consideration is given to the soldier as an individual by those to whom he has to make his personal adjustments. His grievances, disappointments and personal problems are no longer matters of family concern. In brief, army life, with its impersonal and military attitude characterized by discipline and regimentation, is such that it does not encourage the expression of one's egoistic drives, and the continual necessity of patterning one's behavior to fit the demands of the organization rather than the individual is obvious. It is, therefore, not surprising that many individuals find it difficult, or impossible, to make the adjustments essential in the transition from civil to military life. The neurosis occurs in the patient's effort to meet, rather than escape, the intolerable reality situation of the present. Later is added the anticipatory fear of the future.

Since the Army has been training, regimenting and disciplining those of military age, certain sociological and economic changes brought about by the war have exerted influences of quite a different pattern upon those under military age, from which group we are recruiting many of our delinquents. These young people have been endowed, suddenly and quite unexpectedly, with an importance which would probably have been unattainable had the war not created the necessity of conserving manpower. Their coöperation has been solicited and at times their services have been commandeered. They have participated in salvage drives and bought war stamps; they have been organized as junior police and junior commandos; they have been encouraged to work on the farms, in the shipyards and factories, and to assume responsibilities within the family.

Participation in these varied activities created by the war not only brought commendation, praise and recognition for services rendered, but many of these young people became recipients of pay checks which compared favorably with those earned by the adult members of the household. As might have been expected, these children sensed the fact that they were needed, that they had something to contribute in the war situation, that they were being called upon to assume extraordinary responsibilities and obligations, and in return they took it for granted that they should enjoy privileges and opportunities comparable to their obligations. The industrial and economic situation presented them with an opportunity of speed-

[1] Read at the ninety-ninth annual meeting of The American Psychiatric Association, Detroit, Michigan, May 10-13, 1943.

ing up their maturity. The confusion with which parents were confronted in their efforts to maintain the orthodox parent-child relationship has been shared by many of the organized groups who are vitally concerned and interested in the welfare of young people. If a boy sixteen years of age is old enough to work 44 hours and earn $48 a week, questions arise as to whether he is too young to own a car, have a girl of his own, and come and go as he wishes, so long as he pays for his board and room.

Experience is teaching us that it takes less intelligence, less maturity and less wisdom to earn $48 a week than it does to spend it wisely, and we can, therefore, well expect that certain baffling problems relating to the behavior of children will arise due to the lag in time between the child's ability to earn, which has been artificially created, and the development of a stable and mature outlook upon life which will permit him to utilize his new found freedom judiciously. There seems to be no method of speeding up the process of acquiring the experiences which are essential to maturity. Children can and should be given the opportunity early in life to acquire and maintain the habits, attitudes and behavior patterns which are in keeping with their age, but if they have been deprived of this opportunity or if circumstances arise which confront them with responsibilities beyond their age, the essential experiences cannot be crowded into a few weeks or months. It is not surprising that the result of speeding up the psychological development of the child has been an increase in the type of behavior we look upon as delinquency.

One cannot help speculating about the effect which the type of life led by these young people of pre-military age will have upon their adjustment to military life as time goes on. How will they react when they have to accept the restrictions imposed by army discipline, or encounter the inevitable difficulties associated with post-war social and economic changes? The question arises as to whether those who are tending toward delinquency now are, on the whole, pretty much the same rather inadequate, somewhat inferior intellectually, emotionally unstable individuals who make up a fairly large percentage of our delinquents in normal times, or whether newly introduced factors are initiating a different and more stable group of young people into a life of crime. This question cannot be answered at the present time, but it is certainly worthy of consideration.

The extent to which the attitude of youth toward authority in the home and elsewhere will be altered may well determine the general trend of delinquency following the war.

The concentration of large groups in military camps and the shifting of civilians from their natural habitats to the centers of war production has quickly created all over the country intense crowding with inadequate housing, and a lack of facilities, such as schools, churches, settlement houses, recreational organizations and other social agencies, which tend to exert certain intangible influences of a stabilizing nature and supply an underlying sense of security for the community in general as well as for the particular groups in whose interest they were organized.

Besides these abrupt and complete disruptions of the normal way of life are the psychological factors which may be said to affect a large number of individuals during the war period. War with its varied disruptions creates a widespread feeling of anxiety and restlessness, a sense of insecurity in relation to the future, and a tendency to live from day to day. Makeshift temporary plans are substituted for well thought out programs requiring careful consideration. Because of the necessity for building one's future, whether it be in the shop, the office or the factory, around the war program, many individuals are confining themselves to jobs out of which they get little or no emotional satisfaction. Consequently, many activities devised for no other purpose than that of escaping boredom are impulsively carried out. Yet a feeling remains that one will eventually return to a more permanent and secure plane of existence. It is something like living in a rented house when one anticipates moving out any day and does little or nothing to fix it up and make it livable.

This widespread emotional reaction of the temporariness of life is reflected from the adults to children in the restless, purposeless

search for something to replace the more concrete plans and definite objectives about which security must eventually be built. Many are accepting a less demanding and less responsible outlook on the future. Attitudes expressed by, "Here today and gone tomorrow," "A short life and a merry one," "Eat, drink and be merry," although they are not universal, are strikingly common during a war period. Such an Epicurean philosophy is probably nothing more than a process of rationalization which helps certain types of people to make a tolerable adjustment during this rather chaotic period. It is this state of mind, however, that makes it easy for many individuals to accept moral standards which they would otherwise reject.

One finds a tendency to discard those fundamentals upon which conforming social conduct depends and supplant them with this thing which we call "morale," as though nothing pertaining to social obligations really mattered after an individual was established in his social group as being well endowed with morale. This psychological war-created attitude toward the old standards of behavior, and the inevitable development in the congested civil and military centers of those conditions and situations which we recognize as leading to delinquency in time of peace, undoubtedly play an important part in the increase of delinquency during the war.

No one familiar with delinquency is disposed to look for any one cause to the exclusion of all others. We all recognize the multiplicity of factors which enter into the development of a criminal career. There are as many causes for delinquency as there are for headaches or convulsions, and we would probably do well to think of the "delinquencies" as we do of the epilepsies, splitting off from time to time various groups which seem to have a fairly well defined etiology.

I am not going to propose a classification of delinquency at this time, but we realize that particular types of individuals are prone to get into social difficulties. We have already defined, studied and segregated the defective delinquent, recognizing that we are dealing with an individual with defective intelligence and a peculiar psychopathy which differentiates him from other defectives and tends toward criminalistic propensities. The constitutional psychopath, less well defined to be sure, represents another group that contributes liberally to some of our most persistent delinquent careers, and the epileptics with their associated states of confusion are given to acts of violence. These may well be looked upon as the delinquent types which have an organic basis for their psychopathy, but they represent only a relatively small number of the individuals who commit delinquent acts.

The increase in delinquency during the war period shows that among the underlying causes of asocial behavior environmental and sociological factors are by far the most important for the following two reasons: (1) They are responsible for more delinquency, as precipitating cause at least, than any other one factor. (2) There is something very definite and tangible that can be done with reference to the type of an environment that creates delinquency.

During the emergency while the country is actively engaged in war, we find that many of the organizations dealing with the behavior of children are located rather remotely from the centers actually needing their help. Guidance clinics, juvenile courts and other social agencies dealing with the problems of delinquency have all suffered from decreases in their staffs due to members entering military service. Because of these handicaps we may have to think in terms of what the specialists can contribute to the needs of children as a group, rather than of the individual child. I am not advocating the discontinuance of any organizations or agencies which have struggled into existence during the past 25 years. It is imperative that we do not relinquish the gains we have made in this field, but we do have a responsibility and an obligation to meet the needs of the community and to organize the available psychiatric services in order that they may contribute the greatest good to the greatest number. This process of reorienting our programs, readapting them to meet the needs of the war situation will, of course, depend upon the particular communities in which the clinic operates, but there will be certain problems common to all regardless of their geographical locations.

(1) One of the difficulties already apparent is the disposition on the part of parents to overlook the less demanding behavior problems because their own time and attention are being devoted to what they consider more important responsibilities. Consequently, many of the earlier problems of childhood which we all recognize as being fundamentally important are likely to be neglected.

(2) The fact that transportation is extremely difficult in many sections of the country will be used by certain parents as an excuse for their not making contact with the child guidance clinics as they would otherwise do.

These two situations may well be met by the organization of mobile clinics which will permit parents to utilize the services of the clinic in a manner that will save time and avoid transportation difficulties. In those states where guidance clinics are operated by the Commissioner of Mental Health or Mental Hygiene or some other central body and clinics are already widely spread throughout the community, it may be necessary to survey the needs of the state and reallocate clinics to the districts which have become temporarily overcrowded and to areas where they are most needed. In this way any given psychiatric unit could operate at its maximum efficiency for the benefit of the largest number of children.

There is already evidence that the varied social agencies dealing with children, although they have not had an increase in numbers, are seeing more cases needing psychiatric assistance, and here the child guidance clinics may contribute valuable services by developing a closer coöperation with such organizations as the family welfare societies, the S. P. C. A., and the juvenile courts. Public health nurses have an opportunity of making contact with an unusually large number of families in which there are children needing wiser parental guidance. They are constantly being called upon to give advice regarding the simpler problems of sleeping, eating, elimination and temper tantrums, and with varying degrees of efficiency this is being done. There is an irreducible minimum of mental hygiene fundamentals which they could utilize to advantage, and opportunities should be provided for these groups to become informed, insofar as it is possible, in this field.

A rather extensive program is already underway for the establishment of day nurseries for the care of children of working mothers, and it will be necessary to recruit a large number of individuals to carry on this work. Certainly part of their training should be in the field of child guidance as, for the time being at least, they will have to assume in a measure the responsibility of the parent. The early habits, attitudes and behavior patterns which these children are to integrate in their personality makeups will be dependent to a greater or less degree upon the wisdom with which they are handled by the nursery schools.

We have long since recognized the importance of indoctrinating teachers, particularly those in the elementary schools, with some of the fundamental concepts of mental hygiene. There never was a time when this aspect of education could be of greater value, and it may be that the staff members of the guidance clinics will have to assume more responsibility for participating in this field.

Only a few of the situations of social and psychological importance have been touched upon in this brief discussion. The suggestion has been made that we spend our time and effort in contributing our limited psychiatric services to the welfare of the group rather than of the individual child. This step would necessitate a greater participation in the programs of other organizations to safeguard the interests and welfare of children during this critical period. Our function as psychiatrists especially concerned with the mental health of children is to awaken and maintain the public interest in needs of children at a time when there is grave danger that these needs will be minimized or ignored.

TECHNIQUES AND FACTORS REVERSING THE TREND OF POPULATION GROWTH IN ILLINOIS STATE HOSPITALS [1]

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AND

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In January, 1941, a study of the rate of increase of resident population in the nine Illinois state hospitals was made by Dr. Charles F. Read [2] of Elgin, for the purpose of charting a proper policy for the future, to determine what steps were needed and could be taken to stem the tide of the increasing numbers of chronically ill and long-time institutionalized patients. Consideration was given both to the financial costs and to the human values of many thousands of patients spending five, ten or as high as forty years of adult life in state mental hospitals. The question as to whether so much long-time institutionalization was good psychiatric practice was also raised.

As a result of this survey a policy was adopted by the Illinois state mental hospitals that a distinct effort should be made using as many approved procedures of a psychiatric, medical and social work nature as possible to halt the ever-increasing numbers of patients with chronic mental illnesses retained in the hospitals for these long periods of time. In addition to a more liberal policy of release and return to the community it was also felt that the too frequent and too easy recourse to commitment should be prevented by more careful pre-commitment study and greater efforts to adjust the somewhat mentally ill patient in the community. This paper is a report on the policy adopted, the techniques used, the results secured and on other factors contributing to these effects, including the changed social and economic conditions and the larger rôle now played by psychiatric treatment in the community by neuropsychiatrists and general practitioners.

[1] Read at the ninety-ninth annual meeting of The American Psychiatric Association, Detroit, Michigan, May 10-13, 1943.

[2] Read, Charles F. A study of possibilities of fewer institutionalized mental patients during the next 4 years. The Ill. Psychiat. J., II: 1, 7.

POLICY

Convinced by the experiences of other states that a more liberal policy of the release of patients would have important psychiatric, humanitarian and fiscal values, the superintendents of the nine mental hospitals in consultation with the central control authorities adopted a policy that the state's resources should no longer be thrown into the building of additional wards and the provision of new beds but, rather, in the direction of an enlarged extra-mural mental hygiene and supervisory service, a liberal release program, longer and more careful supervision after release, and the establishment of mental hygiene facilities for the community adjustment of patients who would otherwise be committed. In substance, the content of a resolution on this subject passed by the superintendents of the Illinois state hospitals in May, 1941, on the completion of Dr. Read's survey was as follows:

> Whereas in the past fifty years the population of the State of Illinois has doubled, its mental hospital population has octuplied, rising from 3,850 to 31,500. From 1927 to 1937 the average increase of resident population was 700 and from 1937 to 1941 the average resident population increased 900 patients per year.
>
> Believing that there are at present enough public bed facilities for the mentally ill in Illinois, we propose to freeze the level of resident patient population where it stood at the beginning of this biennium, June 30, 1940, namely at 30,782, and to make unnecessary the future provision of any large number of additional beds by a more active institutional treatment program, and by an enlarged extra-mural program. The future building program should only be of such amount as to be in proportion to the increase in the general population of the state. (This goal was some 700 patients less than the number present in the hospitals at the time of the survey.)

The present report describes the effort to carry out the mandate of this resolution during the 18 months beginning July 1, 1941.

In embarking on this program it became necessary to keep careful, comparative monthly reports on the progress or lack of progress of the undertaking. The statistical office prepared tables and graphs on the admissions, therapeutic paroles, direct discharges, discharges from parole, returns from parole, deaths, transfers, deportations and other factors influencing the changes in the resident hospital population. A friendly rivalry developed between the staffs of the nine hospitals as such comparative box scores were placed before them each month. The setting of a specific resident population goal seemed to act as a special incentive to carry out this program. However, the moratorium on building since the beginning of the war caused this at first optional program to become an absolutely necessary program. Otherwise intolerable over-crowding would quickly have resulted.

Techniques

The equivalent time of four additional psychiatrists and eleven psychiatric social workers was added to the staffs of the several hospitals to carry out the new program. In addition other members of the medical and social worker staffs devoted more time and effort in seeking out releasable patients, preparing them for discharge, and assisting with their subsequent supervision. Since the large majority of the patients at the Elgin, Chicago, Kankakee and Manteno State Hospitals were committed from Chicago and Cook County, a new clinic, the Chicago Community Clinic, was established to supervise the patients released from these four hospitals to Cook County. The number of one-day monthly clinics for the supervision of newly released patients throughout the state was increased from 12 to 22. Thus a more careful coverage of the state by the clinics brought the extended extra-mural service closer to many communities and permitted the release of larger numbers of patients requiring careful supervision.

A diagnostic and consultative service to patients about to be committed was established in the full time Chicago Community Clinic and the 22 one-day per month clinics. Judges, physicians, social workers and relatives use this pre-commitment service and are given prescriptions for the vocational, social and home adjustment of patients for whom the pre-commitment study reveals that institutionalization is not required. The members of the clinic gave information to the community as to what the state hospital can and cannot do for the different types of personality maladjustment.

Considerable, perhaps excessive, publicity was given to the fact that the Illinois state hospitals would now become much more liberal in the release of mental patients. The fantastic figure of "7,000 mental patients" was once blazoned in the press as the number of persons immediately to be released. Among the beneficial results of this otherwise dubious publicity was the fact that a number of relatives who had quite forgotten their patients hastened to the hospitals to object to their release. Some who came to object remained to give consideration to the possibility of again caring for their somewhat mentally ill relative at home. Social agencies and local public officials, at first concerned about the possibility of dangerous mental patients being released into the community, became converted and began to assist in finding more community resources for the mentally convalescent patient. The State Bureau of Vocational Rehabilitation was found willing to include in its program for the physically handicapped those released mental patients for whom our psychiatrists prescribed vocational retraining.

The Old Age Assistance service of the state co-operated by granting financial aid to hundreds of persons beyond the age of 65 suffering from senile and arteriosclerotic psychoses. Although the state hospitals found 2,000 elderly patients in these categories who could safely be released, the difficulties of finding satisfactory places of residency in the community and of appointing conservators to safeguard the interests of the patient and to make possible the payment of Old Age Assistance funds, considerably slowed the transfer of these patients to Old Age Assistance rolls.

There was found buried in the statutes a legal device whereby mental patients could be boarded out in private homes at state expense not to exceed the per capita cost of the patient in the hospital from which he was

released. A program of family care for patients too young or otherwise ineligible to receive Old Age Assistance benefits was devised. During this 18 months' period, 340 patients were removed from the state hospitals and placed with families other than their own. The majority of this group became self-supporting or were supported by relatives, a minor fraction was supported by Old Age Assistance and relief grants, while only a negligible number were supported by state hospital funds. In some instances, although the patient did not live with his own family, several of his relatives contributed so that his support outside of the community was possible. Because of the many legal, fiscal and medical procedures about which the social workers needed to have special knowledge, a social service manual on the family care of mental patients was developed.

As the ward physician reviewed his patients one by one to discover those who could properly be released, we were often chagrined at the discovery of patients whose release would have been feasible many years earlier. Several patients were found to have large estates which made possible their release, support and supervision in the community. Forgotten relatives were communicated with, and enlisted in the effort to get suitable patients out into the communities.

More staff meetings were held to discuss the possibility of release of borderline cases, and to prescribe the kind of community care needed. A form was devised and distributed among the physicians entitled, "Physician's Release Recommendations," to be used at the staff meeting deciding whether or not the patient could be released, and subsequently by the physician and social worker supervising the patient after release to the community. The data included the patient's present mental status, his present physical status, the presence of any somatic disease requiring medical attention, the patient's general strength and ability to sustain himself and to work, the patient's public health status excluding the presence of tuberculosis or of enteric disease carrier states; recommendation as to the kind and amount of supervision required; a statement as to the patient's employment possibilities, advice as to with whom in the community the patient would adjust best; advice as to recreation; the need for a conservator; special warnings regarding the patient's behavior, and a final overall statement about release couched in the following language:

> Check one of the following:
> Patient should be released;
> Patient could be released;
> Patient should not be released because:
> he is (check one) homicidal,
> suicidal, sex problem,
> recurrent community problem, other;

However, we did not in all instances rigidly adhere to the rather elaborate arrangement of staff meetings and pre-parole investigations of the home set-up to safeguard the procedure of releasing and supervising cases. The several superintendents of the hospitals continued to exercise their right of what one of them aptly dubbed "the extemporaneous release of patients"; that is, the superintendent, upon having interviewed the patient and a responsible member of his family, effects an immediate discharge of the patient without recourse to some of the more formal procedures mentioned.

It was found quite profitable to extend cooperation to the association of former alcoholic patients called Alcoholics Anonymous. A close-working relationship developed between those of our state hospitals in the vicinity of Chicago in which there is a strong and co-operative group of Alcoholics Anonymous. Selected members of this group spent many hours in our hospitals working with undeteriorated and not very psychotic alcoholic patients. The favorable results of this technique, especially at the Manteno State Hospital, have been described by McMahan.[8]

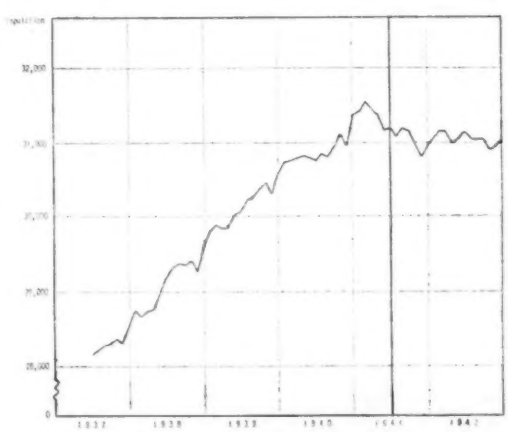
Other techniques may be mentioned which, however, were used too little or too late in this program to play more than a negligible rôle in contributing to the results. However, it is intended to make greater use of these techniques which include: group psychotherapy, an adaptation of Abraham Low's Recovery Association technique, and the treatment with hyperpyrexia and arsenicals of patients not yet psychotic, who are dis-

[8] McMahan, H. G. The psychotherapeutic approach of chronic alcoholism in conjunction with the alcoholics anonymous program. The Ill. Psychiat. J., II: 2, 15.

covered to have positive spinal fluid complement fixation reactions. Fifteen hundred such patients have been discovered by the venereal disease clinics in Illinois; 600 patients are admitted annually to the state hospitals suffering from paresis; 3,000 beds are at present occupied in these hospitals by patients suffering from paresis. It is obvious that the pre-psychotic treatment of impending paresis or cerebral vascular syphilis is an important part of any program designed to restrict the increase of institutional population.

Results

In interpreting results, one is immediately confronted by the fact that many factors other than the specific procedures already described, played an important rôle in reversing the trend of the population level in the Illinois state hospitals. First let us consider the actual variation in resident population in the hospitals during the four years preceding and during the 18 months of the program being reported. A precise examination of Graph 1 reveals that the actual reversal of the population trend began in April, 1941, and continued after July of that year. During the spring of 1941, our medical and social service staffs, aware of what was in the air, spontaneously liberalized their release policy. The decline stopped in 1942, and became a hilly plateau. On January 1, 1943, the resident population of the Illinois mental hospitals was 30,951 or almost 600 less than the peak reached in March, 1941 (31,548), and approximately the same as it had been in November, 1940. Whereas in this 26-month period there was no net rise in population, the average increase in patients for equal segments of time in previous years had ranged 1760 to 1950. This is a sharp change in trend.



Graph 1.—Resident population in the major state hospitals, by months: 1937-1942.

Next let us consider the variations in admissions prior to and during the 18 months of this study. Graph 2 shows the important rôle played by the change in the rate of all admissions to the hospitals. That social and economic factors of the type described by Neil Dayton played an important rôle, perhaps more important than the techniques described in reversing the trend in institutional population by lessening admissions is evident from the fact that admissions did not rise in 1939 (the first year in 15 without a rise); that the admissions declined slightly in 1940 and in the first quarter of 1941; and declined sharply in the last 9 months of 1941 and again levelled off during 1942. It will be a worth while endeavor, but beyond the scope of this paper to analyze the rôle played by this reversal of the usually rising admission rate. However, in 1942, the junior author showed that the number of patients given shock treatment and other psychiatric treatment in general hospitals had increased rapidly from 1935 to 1940. The number of psychiatric patients treated in general hospitals in Cook County in the latter year being three times those treated in 1935.

The variations of all discharges (direct and from parole and family care) prior to and during the period of study are considered in Graph 3.

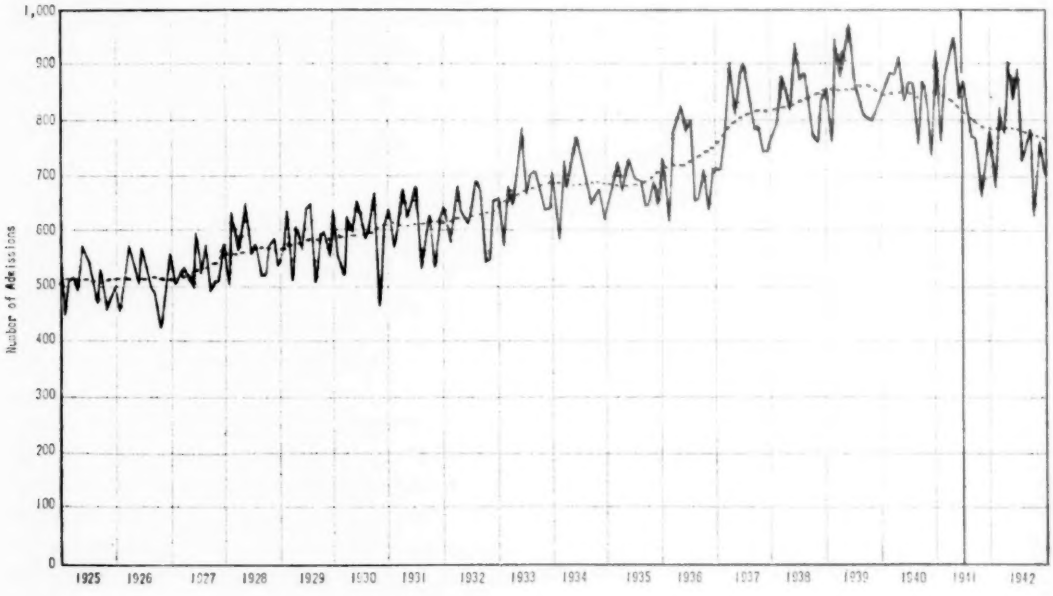
Comparing the absolute number of discharges during the 18 months under consideration with a similar period, we find all discharges (direct and from parole) during 18 months beginning July 1939 to be 9,645; for 18 months beginning July 1941, 10,066. There was an absolute increase of 421 discharges during the new program. The results of the more liberal release program did not include an increase in re-admissions or a return to the hospital of patients on trial in the community. The re-admissions were as follows: re-admissions in 18 months be-

ginning July 1, 1939, 4,168; in 18 months beginning July 1, 1941, 3,923.

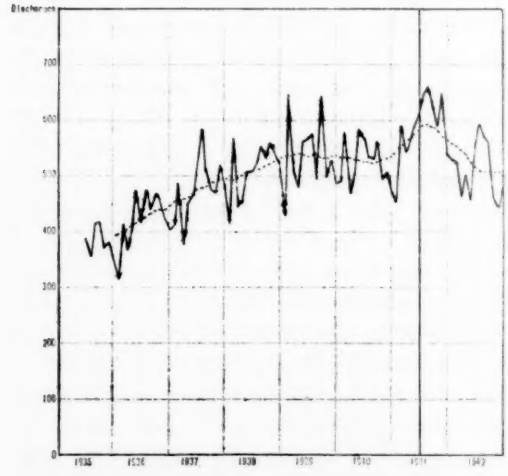
Death played no rôle in reducing the resident population during this period. The death rate in the 18 months following July 1941 was the lowest since 1924 in the Illinois state hospitals.

Comment and Conclusion

The rising tide of resident population in the Illinois state hospitals has been stopped, probably both by the specific efforts directed to that end and by favorable factors in the community. However, this paper raises more questions than it answers and must therefore be considered a preliminary report. The fears that a liberal policy of releasing mental patients would result in an unfortunate increase of anti-social behavior by or exploitation of released patients have not yet been justified. When large numbers of working mental patients are released from the institution the occupational and recreational therapy programs and other elements in the total push program of necessity must be accelerated to recruit from among idle patients new working patients to replace those working patients who have gone home. Hence, a liberal policy of release forces the mental hospital to enlarge its total therapeutic program. Several techniques used in this program have been listed and described briefly. However, the exact effectiveness of these techniques and the precise rôle played by each in reducing institutional population are yet to be studied and reported upon. For example, follow-up studies must be carried on for several years to determine the effectiveness of the co-operative working relationship with the Alcoholics Anonymous group before more definite conclusions can be reached as to the value of that particular



Graph 2.—Admissions to the major state hospitals, by months: 1925-1942.



Graph 3.—Discharges from the major state hospitals, by months: 1935-1942.

technique. The same may be said as regards the Recovery Association, the preventive treatment of patients with positive spinal fluid findings, the use of family care techniques, pre-commitment services, and such accepted techniques as shock therapy.

A qualitative study of the kind of persons being admitted to our state hospitals at this time will reveal a large proportion of aged and infirm patients. Careful study needs to be given to this particular group to secure the proper proportion of community and institutional care for them. Additional time and study will also reveal whether the Illinois mental hospitals released patients who were the "cream of the crop" and to what extent the addition of more personnel engaged in the release of patients and their supervision will encounter the law of diminishing returns. We feel that it is the part of wisdom to avoid extreme swings of the pendulum in either institutionalization or community care for the mentally ill, that both fiscal and human values need to be considered and brought into balance in planning a mental hospital program. Continued careful evaluation of those social, economic and medical factors of the type emphasized by Dayton and critical statistical scrutiny of all the techniques employed in a program designed to prevent unnecessary institutional expansion are needed in wisely charting the future program.

AN APPRAISAL OF THE PERSONALITY TYPES OF THE ADDICT

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From the earliest records, opium and certain other narcotic drugs such as hyoscyamus, hemlock and mandragora are known to have been used by man. Then, as now, opium was used in medicine, but because of the psychic effect produced in certain types of individuals it must also have been used for its pleasure-producing properties.

Professor R. P. Dougherty, in charge of the Babylonian Collection at Yale University, states that the Sumerians, about 4,000 B. C., speak of opium, using the ideogram HUL. GIL. Terry and Pellens(1) quote the following communication from Professor Dougherty with regard to the probable derivation of this name for the drug:

> I should say that the basic meaning of the sign HUL is "joy," "rejoicing." GIL as a single ideogram represents a number of plants, but its meaning in the ideogram for "opium" is difficult to determine with exactness. It may be suggested in a very tentative way that the Sumerians in their system of pictographic writing endeavored to depict the power of opium to produce a sense of delight or satisfaction.

These early people, it may be assumed, must have known of the seductive qualities of opium which make it such a danger to the inadequate, psychopathic or chronically maladjusted individual.

Since ancient times, practitioners of the medical arts have employed preparations containing opium for a multitude of physical and psychological conditions. Galen spoke thus of one of his favorite panaceas, theriaca, whose principal ingredient was opium(2):

> It resists poison and venomous bites, cures inveterate headache, vertigo, deafness, epilepsy, apoplexy, dimness of sight, loss of voice, asthma, coughs of all kinds, spitting of blood, tightness of breath, colic, the iliac poison, jaundice, hardness of the spleen, stone, urinary complaints, fevers, dropsies, leprosies, the troubles to which women are subject, melancholy and all pestilences.

It will be noted that there are several conditions in this list for which, rightly or wrongly, opiates are still administered. From the time of Galen until the modern era, writers have mentioned the effects of opium on patients suffering from mental illness, and have recommended its use for relief of depressions, hysteria and similar conditions.

All who have treated addicts know how these individuals use narcotics almost as a panacea. If it does not prove beneficial in any and all conditions, at least it seems to lessen the concern over the situation, which after all is a relief of a sort. There have always been those unhappy souls who, striving for peace or oblivion, have found the psychological effects of opium irresistibly attractive. These sensations were vividly described by De Quincey in his *Confessions of an Opium Eater* in the following words:

> For it seemed to me as if then first I stood at a distance aloof from the uproar of life; as if the tumult, the fever, and the strife, were suspended; a respite were granted from the secret burdens of the heart—some sabbath of repose, some resting from human labours. Here were the hopes which blossom in the paths of life, reconciled with the peace which is in the grave; motions of the intellect as unwearied as the heavens, yet for all anxieties a halcyon calm; tranquillity that seemed no product of inertia, but as if resulting from mighty and equal antagonisms; infinite activities, infinite repose.

Among modern writers it has been recognized for many years that certain types of individuals are more prone to become addicts than are others. Stille(3) stated that those who have a "propensity . . . . to employ some artificial means of promoting the flow of agreeable thoughts, of emboldening the spirit to perform acts of daring, or of steeping in forgetfulness the sense of sorrow" are more likely to embrace narcotics and fall a victim of their enslaving effects than are those who do not possess these propensities. Many authors have mentioned the fact that certain types of personalities are attracted by narcotics, and Claude(4) in 1923, classified addicts into three categories which he called the intellectual and imaginative, the sensitive and effective, and

the self-willed. The first group began indulgence in drugs through curiosity, the second because of a low threshold for pain or an abnormal sensitivity to pleasure, and the third as a result of loss of will-power or of indifference.

In 1925 Kolb(5) formulated a general classification based on a personality study of 230 addicts, which included life history, heredity, native intelligence, emotions, make-up, temperament and other characteristics. This classification, with some modifications and the addition of a sixth group, as described by Kolb and Ossenfort(6), is as follows:

1. Normal individuals accidentally addicted.
2. Individuals with a psychopathic diathesis or predisposition.
3. Psychoneurotic individuals of all types.
4. Individuals without psychosis, but with psychopathic personalities of all types.
5. Addicts with inebriate personalities.
6. Drug addicts with associated psychoses.

This classification, with certain exceptions which will be mentioned, forms a simple and comprehensive basis for studying the addict as a personality. It tends to classify him according to the cause of his addiction, in so far as this is possible in our present state of knowledge.

Normal individuals accidentally addicted comprise a small group, consisting of persons with normal personality make-up who have been given narcotics for strictly legitimate medical reasons. The drug has been administered over a sufficient length of time and at sufficiently short intervals to build up physical dependence. Patients falling into this class derive little or no emotional satisfaction from an opiate, and have no desire to continue its use for psychological reasons. Once the physical need is gone, desire for the drug no longer exists. The members of this group are able to face their problems squarely and to handle them satisfactorily without pharmacological assistance.

The concept of individuals with a psychopathic diathesis has never seemed clear. Kolb(5) in his original paper, described a group of "care-free individuals, devoted to pleasure, seeking new excitements and sensations, and usually having some ill-defined instability of personality that often expresses itself in mild infractions of social customs." This appears to be somewhat analogous to Claude's intellectual and imaginative category. Kolb also listed another group which he described as "habitual criminals, always psychopathic." The original differentiation between these groups seems to have been on the basis of criminal activity, rather than on degrees of psychopathy. As the term "psychopathic diathesis" is interpreted by the present writer, the members of this group are characterized chiefly by the fact that they have made, throughout life, a marginal adjustment, staying out of major difficulties, but being devoted to a thrill-seeking existence. They look for new and different sensations and pleasures much more than do normal individuals. Sooner or later they encounter narcotics and find the unconscious goal of their search. On drugs they may adjust fairly well if they can maintain their supply, while off of drugs they have difficulty fitting comfortably into the scheme of things. If this concept is correct, it would seem that this group is a redundant one, since a better understanding of the personality make-up of its members would probably result in their being placed in either the psychoneurotic, psychotic or psychopathic group. All too often there is a tendency to use this classification as a catch-all for addicts not otherwise classified. The definitions of the psychopathic personality are themselves too vague, it seems, to make it advisable to classify individuals as having a predisposition for such a condition.

Addicts in the psychoneurotic group use narcotics for the relief of their symptoms whether these be somatic complaints or a subjective awareness of tension manifested by anxiety, compulsive behavior, insomnia or other complaints. These symptoms come to occupy a progressively greater portion of consciousness to the exclusion of the primary difficulties which are back of them. Not only is anxiety transferred from the underlying processes to these symptoms, but also the symptoms are utilized in rationalizing failures and lack of achievement. Since they are, in their own minds at least, sick individuals, these patients reason that they cannot be expected to meet life's problems as normal persons, and therefore are better able to tolerate failure to achieve certain goals. If at some time an opiate is adminis-

tered, the patients are not only relieved of their complaints, but they also experience a psychic relief never felt before. They continue to use the drug to recapture this sensation, finally developing dependence. Once this has occurred, narcotics must be continued to avoid the painful symptoms of abstinence. This continuation is rationalized on the basis that it is necessary to health or comfort; and they will often protest vigorously that their health will be seriously endangered if the drug is withdrawn, unless first they are placed in the best of physical condition—they to be the judge when this condition is attained. Thus the narcotics which were actually taken because of emotional and psychiatric difficulties are excused on the basis of ill health. The practice of administering narcotics to psychoneurotic individuals without definite therapeutic indications cannot be condemned too strongly.

Kolb(5) found the group with psychopathic personalities to possess, as a rule, an open make-up. These individuals, too, suffer from the results of inadequate personalities, but they more often react in an aggressive manner than by attempting to avoid situations as do the neurotics. Their aggressive actions could not be considered the behavior of well adjusted individuals who are sure of themselves, although often it appears that the intent is to convey that impression. Drive, operating without the proper checks and balances, is a prominent characteristic of the psychopathic personality group. There is an apparent inability to profit by experience and they do not seem to seriously consider social or ethical standards a check upon their activity. They do as their wishes dictate, postponing concern over the consequences until these have been transformed from possibilities to definite actualities. Even long after they have become transparent, rationalizations are utilized in order to explain their behavior. They have not achieved the full stature of maturity in its broadest sense and frequently they seemed to overcompensate for this defect by an almost adolescent proclivity for placing themselves at cross purposes with constituted authority, coming away from these clashes full of resentment and expressing or implying feelings of mistreatment. They frequently appear to be beset with restlessness and uncertainties which are expressed in various ways. Narcotics often have a calming influence on them in the sense that they become less aggressive. Since their aggressiveness is decreased, their difficulties are proportionately diminished and life becomes less turbulent. While, as has been said previously, this is an ill-defined group, nevertheless it is a very real one and perhaps the most difficult with which to deal from either the administrative or therapeutic standpoint.

It has been stated elsewhere(7) that, while for the purpose of classification, it may be desirable to consider separately the addict who has an alcoholic history, and who usually relapses to drugs through indulgence in alcohol, from the point of view of etiology no differentiation can be made. A careful study will reveal that, on the basis of their fundamental difficulties, the addicts placed in this group can be classified in one of the other categories. The use of alcohol, like the use of drugs, is to the psychiatrist a symptom and not a disease in itself. It is therefore an expression of the underlying maladjustment. It is felt that this concept is important to the therapist. Kolb(5), discussing the inebriate addict, says, ". . . . the inebriate impulse is one of the most important, if not the most important, causes of drug addiction. As here understood, the inebriate addicts are those who have a periodic impulse to take intoxicants. . . . . That the craving or indefinite longing which these people may be supposed to have is not specific for alcohol, but may be satisfied by opium also, is shown by the histories of a number of addicts of this series." The more one deals with alcoholics and drug addicts, the more deep is the impression that, from the psychiatric point of view, they differ chiefly in the drug they use; the motivating factors appear to be, for all practical purposes, identical. If this impression be accurate, then alcoholics would fall in the same classes as drug addicts, thus eliminating the inebriate category. This would be true even though the inebriate category were restricted to spree drinkers as Kolb originally described it.

Drug addicts with associated psychosis is the sixth category set up by Kolb and Ossenfort(6). From an etiological standpoint,

this is an extremely small group consisting of individuals in whom a psychosis was the precipitating cause of the use of drugs. Were a psychosis to develop during the withdrawal of the drug, or subsequently while the individual were abstinent, the case would not be included in this group.

Using Kolb's classification of addicts, as modified by Kolb and Ossenfort, as a basis, the following more restricted classification is proposed in the light of what has been said:

1. Normal individuals accidentally addicted.
2. Psychoneurotic individuals of all types.
3. Individuals without psychosis, but with psychopathic personalities of all types.
4. Drug addicts with associated psychosis.

This classification, which contains no new categories, is based on the assumption that drug addiction is not in itself a disease, but rather a manifestation or symptom of an individual's personality difficulties. Kolb(8) has said that the addict is a psychologically maladjusted individual, plus an accident, the latter being his introduction to a narcotic. It is easy to understand how such an individual could quickly become enslaved by an opiate, for at the same time it lessens or abolishes the unpleasant feeling-tone brought about by the personality difficulty, it builds up physical dependence; and withdrawal of the drug results in discomfort and physical illness. In our present society the use of drugs under such conditions is looked upon with so much disapproval that the unhappy victim is punished and ostracized, which adds further to his already bitter and unhappy mental state. Knowing what will bring about what Kolb(9) describes as a negative pleasure, *i.e.*, a condition in which is experienced temporary relief from an unpleasant or painful condition, the addict returns again to narcotics, often in a manner suggestive of a conditioned reaction, even after his dependence has been broken by withdrawal of the drug, since the stigma placed upon him is not removed with abstention. Thus a vicious circle is started in which society looks upon repeated relapses to addiction as evidence of wickedness and perversity and reacts accordingly, while the addict continues his indulgence to avoid his difficulties, resulting very frequently in disastrous consequences.

We are on much more certain ground and are placing ourselves in a better position to give real and lasting assistance to the addict if we conceive of him as an inadequately adjusted individual, not radically different from his non-addicted fellows, who has at some time discovered that drugs either dulled the sense of discomfort produced by his difficulties, or gave him a subjective feeling of mastery over his situation. In either case he experienced a release and emotional uplift which compensated for the attitude of society toward him.

The opiates, while being the most common preparations used by these unstable persons, are not the only drugs with which we have to deal. Without entering into a discussion of the pharmacology of these substances, it can be said that they all, to a greater or lesser extent, have an analgesic action and are either directly or indirectly hypnotic. These drugs range in their ability to produce these effects from the derivatives of opium through the barbiturates. In whatever respects they may differ, they all raise the threshold of awareness and thus screen from consciousness some of the unpleasant stimuli, both somatic and psychic. Some of the preparations are used for this purpose, not only by the addict, but on occasion by a great number of non-addicted individuals. Under sufficient stress there is a common tendency to employ the aid of the barbiturates, for instance. Many households keep a supply in their medicine chests, to be used, as a neighbor recently put it, "when the pulse in your pillowed ear roars like thunder, and your problems of the day will not be put aside so that sleep will come."

This neighbor differs from the potential addict in that he is able to meet and solve the great majority of the situations he encounters in an acceptable and satisfactory manner, and only at relatively rare intervals feels the need of an hypnotic to decrease his awareness in order to relax and rest. Most of the unpleasant experiences of his day-to-day life come within his range of tolerance for such things and he needs no chemical assistance to see him through. In the case of the addict, his tolerance for enduring discomfort, conflict, frustration, feelings of inferiority and similar difficulties is lower than that of his so-called normal

fellows. He may make the most of his situation, realizing in a vague way that something is lacking for the living of a full life. Then he experiences drugs. It is not unusual to hear an addict describe his reaction to his early experience with drugs by saying, "I realized then that I had been looking for something all of my life without actually being aware of the fact, and that I had finally found it." Such an individual finally found an agent which would dull the discomfort that accompanies awareness of inadequacies, whether these be on a physiological or psychological basis, and would permit him to live with them as they existed, thereby eliminating the necessity of making a constructive effort to remedy the situation. To the inadequate individual this is a solution of a sort, while the psychologically healthy person would attempt to improve his situation by overcoming his difficulties.

Some striking parallels between the addict and the mentally healthy individual have been observed recently while dealing with men undergoing Officers' Training in one of the armed services. These young men are suddenly removed from their civilian occupations and placed in a radically different environment. Besides changes in the mode of living, new attitudes must be developed; and this is extremely difficult to accomplish in some cases. The future is uncertain and plans can be made only on a tentative basis. In addition, several months must be spent in intensive classroom study and in practical work. In many cases the men have been absent from academic life for several years. Rigid examinations must be passed at frequent intervals in order to continue in the course and obtain a commission, and classmates are constantly falling by the wayside. They know that they are under constant observation, not only from the standpoint of academic proficiency, but also from that of adaptability, in the fullest sense of that word. Time is of the essence and facts must be grasped when presented. There is no opportunity to review material that was not well fixed in the mind when originally presented. Failure to complete the course means disenrollment and facing family and friends as something less than a success in what was undertaken. In this constantly tense atmosphere, charged with uncertainty and insecurity, away from the accustomed environment, the unstable and inadequate individuals find it increasingly difficult to adjust. Somatic complaints, anxiety, resentment against "the system," difficulty in sleeping, irritability and other complaints with a familiar ring develop. Unable to face the real difficulty, it is not unusual for rationalizations to be elaborated, one of the most common of which projects the cause of the failure onto the instructors or the general organization of the institution. Due to the nature of the society in which they are living, these men repress much that they would like to express which results in an even greater rise in tension. Efficiency drops and the situation is worse than ever.

There is much in this picture that has been seen in the addict, and to an even greater extent in the former addict on the verge of a relapse. Like the unsatisfactory officer candidate, the addict made an adjustment which was at least superficially adequate until life became too complicated for him with his limitations in personality resources. The unsatisfactory officer candidate stands somewhere in the mid-zone between the mentally healthy and resilient individual and the mentally unhealthy addict with his limited ability for adjustment. He is unlike the addict in that day-to-day civilian life was not too difficult. Maladjustment became apparent only after he was projected into a very unusual situation fraught with many threats both of a physical and psychological nature.

CONCLUSION

An attempt has been made to discuss addicts from the standpoint of types set up on the basis of manifestations of personality. It must be remembered, however, that any classification is of value only if it leads to better understanding the patient, which is essential to intelligent therapy. Indefinite or overlapping groupings not only serve no useful purpose, but may obstruct proper therapy. There is a danger in too much insistence on classification, since there is then a tendency to think of addicts in terms of groups or constellations rather than as individuals with individual personalities. At best the personalities of addicts in the same category are only similar; rarely can sweeping statements as to therapy be made on the basis

of such groupings. The groups shade into one another and there will always be difficulty in classifying the borderline cases. This should cause us little concern from the therapeutic point of view since the patient should be treated according to the individual findings in any event. Finally, it should be noted that the personality types discussed are not peculiar to addicts alone. Except for normal individuals accidentally addicted, patients who have never used drugs can be found in any psychiatric clinic who would certainly fall into one or the other of the classes enumerated. The addict is not a creature apart from the psychiatric point of view. He differs from other psychiatric cases of the same class chiefly in his presenting symptom. The therapist must ever keep this fact before him, and treatment should be directed accordingly. This must be the first rule in treating the addict.

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THERAPEUTIC MECHANISMS OF ALCOHOLICS ANONYMOUS [1]

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Alcoholics Anonymous is the name applied to a group of ex-alcoholics who, through a therapeutic program which includes a definite religious element, have successfully combated alcoholism. The group stems from the efforts of one man, Mr. William Wilson, who in 1934 found an answer to his drinking problem in a personal religious experience. This experience he was able to translate into terms which were meaningful for others. Since then, many alcoholics have become sober by using his approach.

The work of Alcoholics Anonymous has a threefold aspect. First, the group has weekly gatherings where experiences are related and problems discussed. Second, all are urged to read their book, "Alcoholics Anonymous," [2] which contains their basic tenets and must be read if one is to arrive at any understanding of their program. Third, the members work with prospects who are making their initial contact with the group. Helping others is a two-way situation since it not only assists the beginner in his first efforts but it also aids the helper who derives from his efforts something which is essential for his continued sobriety.

Statistics at the New York office of the organization read as follows:

5 recovered at the end of the first year.
15 recovered at the end of the second year.
40 recovered at the end of the third year.
100 recovered at the end of the fourth year.
400 recovered at the end of the fifth year.
2000 recovered at the end of the sixth year.
8000 recovered at the end of the seventh year.

Alcoholics Anonymous claims a recovery rate of 75 per cent of those who really try their methods. This figure, coupled with their mushroom growth, commands respect and demands explanation.

While fully cognizant of the fellowship values of the group, of the help accruing to each member from his efforts to help new ones and of the general atmosphere of hope and encouragement which emanates from any successfully treated person, I regard them as accessory to the central therapeutic force, religion—a truth which, hopefully, will become clear by the end of the paper, and a realization of which developed from many long talks with Mr. Wilson.

My first contact with the group came through the medium of a thirty-four year old woman patient who had been under my care at Blythewood for several months. She had been a chronic alcoholic for many years and, despite intelligence, family position and early successes, had literally hit the gutter, after a steady decline in her fortunes had left her all but penniless. Although no patient ever wanted to get well more desperately or cooperated more wholeheartedly in a treatment program than she, the results were very unsatisfactory. Finally, it became clear that she possessed a character structure which, despite her best efforts and mine, persisted unshaken and was clearly responsible for the continuance of her drinking. One day a copy of "Alcoholics Anonymous," while yet in multilith form, came into my hands. I read it, and found it contained a most accurate description of the character problem I had been facing in my patient. In an effort to jar her a bit, I gave her the book to read. To my surprise she was so greatly impressed that she arranged to go to an Alcoholics Anonymous meeting and very shortly became an active and successful member of the group. Even more surprising was the discovery that, with the process of assimilation of that program, her character structure, which had been blocking any help, dissolved and was replaced by one which enabled its possessor to remain dry.

Something had taken place under my very nose which could not be doubted and which could not be explained away as mere coincidence. I found myself facing the question: What had happened? My answer is that the patient had had a religious or spiritual experience. The answer, however, did

[1] Read at the ninety-ninth annual meeting of The American Psychiatric Association, Detroit, Michigan, May 10-13, 1943.

[2] Alcoholics Anonymous. New York City, Works Publishing Co., 1942.

not prove particularly enlightening and it was not until much later that I began to appreciate the real meaning of the answer.

Before attempting to explain how further understanding of the significance of the religious factor developed, it is necessary to discuss the character structure which had dissolved. Despite most reports to the contrary, there is a growing recognition of certain common qualities which are regularly present in alcoholics excepting those who have a frank underlying mental condition. Characteristic of the so-called typical alcoholic is a narcissistic egocentric core, dominated by feelings of omnipotence, intent on maintaining at all costs its inner integrity. While these characteristics are found in other maladjustments, they appear in relatively pure culture in alcoholic after alcoholic. In a careful study of a series of cases, Sillman [3] recently reported that he felt he could discern the outlines of a common character structure among problem drinkers and that the best terms he could find for the group of qualities noted was "defiant individuality" and "grandiosity." In my opinion, those words were accurately chosen. Inwardly the alcoholic brooks no control from man or God. He, the alcoholic, is and must be master of his destiny. He will fight to the end to preserve that position.

Granting then the more or less constant presence of these character traits, it is easy to see how the person possessing them has difficulty in accepting God and religion. Religion by its demand that the individual acknowledge the presence of a God challenges the very nature of the alcoholic. But, on the other hand, and this point is basic to my paper, *if* the alcoholic can *truly accept* the presence of a Power greater than himself, he, by that very step, modifies at least temporarily and possibly permanently his deepest inner structure and when he does so without resentment or struggle, then he is no longer typically alcoholic. And the strange thing is that if the alcoholic can sustain that inner feeling of acceptance, he can and will remain sober for the rest of his life. To his friends and family, he has gotten religion! To psychiatrists, he has gotten a form of self-hypnosis or what you will. Regardless of what has occurred inside the alcoholic, he can now stay dry. Such is the Alcoholics Anonymous contention, and I believe it is based upon facts.

Let us go back to my patient and describe her after her experience in Alcoholics Anonymous. In her original state she corresponded perfectly with the description already given of the alcoholic character structure. After Alcoholics Anonymous began to take hold, changes in her personality became apparent. The aggression subsided materially, the feeling of being at odds with the world disappeared, and with it vanished the tendency to suspect the motives and attitudes of others. A sense of peace and calm ensued with real lessening of inner tension; and the lines of her face softened and became gentler and more kindly. That hard inner core was being altered, altered sufficiently to bring about the patient's sobriety for a period of five years.

What was the nature of the experience which stirred this patient when she joined Alcoholics Anonymous? The answer is that some sort of religious or spiritual force was awakened. Wilson states that the success of the group with any alcoholic depends upon the degree to which the individual goes through a conversion or spiritual activation. His own experience was of the sweeping, cataclysmic type which lifted him out of a slough of despond and transported him to heights of ecstatic joy and happiness where he stayed for some hours. This state was then succeeded by a feeling of peace, serenity and the profound conviction that he was freed from the bondage of liquor. He states that roughly 10 per cent enter Alcoholics Anonymous on the strength of such an experience. The remaining 90 per cent who stay dry achieve the same result by developing slowly and much more gradually the spiritual side of their nature through following the various steps in the program already outlined. According to Alcoholics Anonymous experience, the speed with which the spiritual awakening takes place is no criterion of either depth or permanence of cure. The religious

[3] At a meeting of psychiatrists, January 1943, Dr. L. S. Sillman made a preliminary report on an investigation he had been undertaking for the Research Council on The Problems of Alcohol. I had hoped to be able to quote directly from his paper but he informs me that it is still in the process of revision.

leavening, however little at first, starts the process; the program helps to bring it to a successful conclusion.

What then is a spiritual awakening? Here the personal experience of Mr. Wilson is again informative. A man of energy, drive and great ability, in his thirties, he found himself completely bogged down by drink. For at least five years he fought the downhill process that was going on in him without success. Two weeks before his last hospital stay, he was visited by a former alcoholic crony who had achieved sobriety through Buchmanism. Wilson tried unsuccessfully to avail himself of his friend's teachings and finally decided he would get sobered up by entering a well-known drying-out place where he could clear his brain of liquor and have a chance to try out his friend's ideas with his, Wilson's, system free from the drag of alcohol. He was desperate, depressed with all the fight knocked out of him. He was willing to try anything because he knew that the alternative facing him was a state hospital and a life of permanent insanity. The evening of his first day of admission, he was again visited by his friend who once more expounded the principles which he felt had brought him health. After he left, Wilson sank into an even deeper depression, which he describes as a "profound sense of melancholy and utter hopelessness." Suddenly in this agony of spirit, he cried aloud, "If there is a God, let Him show himself now." And with this plea his religious experience started. He points out, and I think rightfully, that it was not until he became utterly humble that he could and did turn to God for the help that was there.

In other words, in light of Mr. Wilson's own experience, a religious or spiritual awakening is the act of giving up one's reliance on one's omnipotence. The defiant individuality no longer defies but accepts help, guidance and control from the outside. And as the individual relinquishes his negative, aggressive feelings toward himself and toward life, he finds himself overwhelmed by strongly positive ones such as love, friendliness, peacefulness and pervading contentment, which state is the exact antithesis of the former restlessness and irritability. And the significant fact is that with this new mental state the individual is no longer literally "driven to drink."

Further insight into the phenomenon of spiritual change came from another patient whose case I now wish to cite. He is a man in his early forties. From a family of wealth, and the youngest of several children, he was the pampered darling of a neurotic, hypochondriacal mother. Drinking began in late adolescence. Almost at once he learned to rely upon liquor to help him meet social situations, and as the years rolled on, this reliance became more pronounced. Finally after one prolonged spree, he was admitted to Blythewood.

He proved to be an exceedingly responsive patient, readily acknowledging his alcoholic tendency, and quickly becoming interested in Alcoholics Anonymous. After residence of about a month, he left quite convinced that he had the problem in hand. Within a short time however nipping set in and four months later he returned after some weeks of steady drinking. Again he showed himself responsive to interviews, but it now became apparent that there was a real battle ahead and that it was exactly the same battle previously faced in the patient first discussed. The traits already described reared themselves as insuperable barriers to therapy.

During the weeks that we were discussing these obstacles the patient began again to nip on the sly and finally went off on a full-fledged spree. He was brought back to Blythewood to terminate it. As is usual with all alcoholics, as he sobered up he was filled with remorse, guilt and a tremendous sense of humility. The defiant personality was licked by the very excesses of its own behavior and, in that mood, he was utterly sure he would never take another drop. On the third day of his recuperation, however, he informed me during an interview that I had better do something about it, and when I asked him what "it" referred to, he replied, "My old feeling is coming back over me; I can feel myself closing in from you and all that has just happened." The indifference to his problem, the aggressive sureness, the utter lack of any real sense of humility and guilt, all the character traits which he had come to identify with the frame of mind that led to drinking were returning and

crowding out the feelings, the thoughts, almost the sensations which filled him as he came out of his drinking bout. He knew that if these returning feelings again took hold of him sooner or later he would go on another alcoholic spree. He realized that somehow he must cling to the attitudes he had as he came out of the bout.

The next day he began his interview with the statement, "Doc, I've got it." He then went on to report his experience of the previous night. This experience I label for want of a better term, "a psychological awakening." What happened was a sudden flash of understanding about himself as a person. This occurred around eleven o'clock, and he lay in bed, wide awake until four o'clock in the morning fitting his new insights and understanding to his knowledge of himself.

It is not easy to reconstruct the events of that five hour period, yet those events constituted a major experience in the life of that patient which gave him a basic appreciation of himself as an alcoholic. Moreover, for the first time, he could see himself as he had always been, and in addition he could sense the sort of person he must become if he were to remain sober. Without being aware of it at the time, he had switched from a completely egocentric, subjective point of view to an objective, mature understanding of himself and his relationship to life.

In retrospect, it is apparent that the patient became aware of his basic egocentricity. For the first time he was able to penetrate behind the façade of his rationalizations and defense reactions and to see that always hitherto he had put himself first. He was literally unaware that other souls existed except insofar as they affected him. That they, too, might have separate existences, similar yet different from his, just never had taken on the aspect of reality. Now he no longer felt himself the omnipotent being who viewed the world only in relation to himself. Instead, he could see himself in relation to the world and could realize that he was but a small fraction of a universe peopled by many other individuals. He could share life with others. He had no further need to dominate and to fight to maintain that domination. He could relax and take things easy.

His new orientation can best be described in the patient's own words. As he put it, "Why, Doc, do you know I've been a fraud all my life, and I never knew it. I used to think I was interested in people, but that wasn't really so. I wasn't interested in my mother as a person who was sick. I didn't realize that she as a person might be suffering; I only thought what will happen to me when she is gone. People used to point me out as a dutiful son and an example, and I believed it. But there wasn't anything to it. I was just anxious to keep her near, because she made me feel better. She never criticized me and always made me feel that whatever I did, I was O. K."

New insights illuminated his previous relationships with people. With respect to this point, he remarked, "Do you know, I'm beginning to feel closer to people. I can think of *them* sometimes. And I feel easier with them, too. Maybe that's because I don't think they're fighting me, since I don't feel I'm fighting them. I now think maybe they can really like me."

Other enlightenments about himself and his relationships to the world could be cited, but they would only add further proof that the thinking of this patient for the first time in his life had become truly objective. This switch to objectivity is, however, but half the story. Associated with the switch, there was an equally striking alteration in the prevailing feeling tone. In words that were reminiscent of Wilson's in his spiritual experience, the patient described his new attitudes, "I feel wonderful but not like I do when I've been drinking. It's very different from that; I feel quiet, not excited and wanting to rush around. I'm more content to stay put, and I don't think I'm going to worry so much. I'm relaxed, yet I feel better able to cope with life now than I ever did." He then went on, "I have a different feeling about God. I don't mind the idea of Some One up there running things now that I don't want to run them myself. In fact, I'm kind of glad that I can feel there is a Supreme Being who can keep things going right. I guess maybe this is something like that spiritual feeling which they talk about. Whatever it is, I hope it stays, because I never felt so peaceful in all my life."

In this statement, the patient manifests a

different attitude toward God, and he also shows that he has become aware of the fact that, as he ceases the effort to maintain his individuality, he can relax and enjoy life in a quiet, yet thoroughly satisfying way. Such feelings are, as he intimates, distinctly spiritual in quality, and he was correct in their appraisal, because he has been able to remain dry for a period of nearly a year. The change to objectivity and the altered feeling tone have proved to be what he needed to stay sober. Despite this relatively brief period of sobriety, the patient feels that he is on much firmer footing. Hitherto, during periods of dryness, he was constantly fighting liquor. Now he has real peace of mind, because he knows what it takes to keep thinking soberly.

This case is cited because it represents an individual who underwent a rapid psychological reorientation, the result of which was an entirely new and different life pattern and life outlook. While one can question the permanence of this new pattern, there can be no question as to the fact that the experience itself occurred.

Of even greater significance for the purpose of this paper is the fact that the patient, as a result of his experience, used the same words to describe his new feelings as did Wilson following his religious experience, and as did my other patient after the activities of Alcoholics Anonymous began to take hold and work upon her. Wilson informs me that of the 10 per cent who have a rapid awakening, some achieve it on the basis of a true religious experience and others as a result of a sweeping psychological event such as happened to my patient. The other 90 per cent attain the same result more gradually, as did the woman patient cited. Irrespective of the path by which that outcome is achieved, there seems no doubt that all end up with this feeling of peace and security, which they link with the spiritual side of life. The narcissistic component in the character is submerged, at least for the time being, and in its place there is a much more mature and objective person, who can meet life situations positively and affirmatively without escape into alcohol. According to Wilson, all members of Alcoholics Anonymous who succeed in remaining dry, sooner or later undergo the same change in personality. They must lose the narcissistic element permanently; otherwise the program of Alcoholics Anonymous works only temporarily.

Here let me make two additional observations. First, there is all the difference in the world between a true, emotional, religious feeling and the vague, groping, skeptical, intellectual belief which passes as a religious feeling in the minds of many people. Regardless of his final conception of that Power, unless the individual attains in the course of time a sense of the reality and the nearness of a Greater Power, his egocentric nature will reassert itself with undiminished intensity, and drinking will again enter into the picture. Second, most of the individuals who finally reach the necessary spiritual state do so merely by following the Alcoholics Anonymous program and without ever consciously experiencing any sudden access of spiritual feeling. Instead they grow slowly but surely into a state of mind which, after it has been present for a time, they may suddenly recognize is greatly different from the one they formerly had. To their surprise, they discover that their point of view and outlook has taken on a very real spiritual coloring.

The central effect, therefore, of Alcoholics Anonymous is to develop in the person a spiritual state which will serve as a direct neutralizing force upon the egocentric elements in the character of the alcoholic. If and when that state becomes completely integrated into new habit patterns, the patient will remain dry. Wilson says that this process of integration takes place over a period of years, and that if there is no noticeable change in personality structure after six months, the spiritual side will likely succumb to a return of the submerged alcoholic self. In other words, unless the religious impetus of Alcoholics Anonymous effects a change in the deeper personality components, the influence of the program is not lasting. Significantly, this change, which is typical, takes place without psychiatric help; yet, as Wilson describes it, it has characteristics which we, as psychiatrists hope for in our improved patients. Briefly, he sums up his observations with the words, "The alcoholic

must gain in objectivity and maturity, otherwise he doesn't stay sober."

In conclusion, it is my belief that the therapeutic value of the Alcoholics Anonymous approach arises from its use of a religious or spiritual force to attack the fundamental narcissism of the alcoholic. With the uprooting of that component, the individual experiences a whole new series of thoughts and feelings which are of a positive nature, and which impel him in the direction of growth and maturity. In other words, this group relies upon an emotional force, religion, to achieve an emotional result, namely the overthrowing of the negative, hostile, set of emotions and supplanting them with a positive set in which the individual no longer need maintain his defiant individuality, but instead can live in peace and harmony with and in his world, sharing and participating freely.

One final comment. Present day psychiatry is properly chary of purely emotional cures. Until any change is firmly linked up with the mind and the intellect, the cure is considered suspect. The emphasis today is on analysis which relies upon the mind to ferret out the causes for the failure to achieve a state of synthesis, which is actually an emotional condition of feeling free of conflict and strain. It is presumed that, as the blocking emotions are uncovered and freed through analysis, positive, synthetic ones will appear instead. It is just as logical, though, to change emotions by using emotions and then, after the change has been brought about, to bring the mind and intellect into play to anchor the new set of emotions into the structure of the personality. In a sense, this is what occurs in Alcholics Anonymous; religion plays upon the narcissism and neutralizes it to produce a feeling of synthesis. In referring to his own spiritual experience, Wilson often calls it a "great synthesizing experience in which everything for the first time became clear to me. It was as though a great cloud had lifted and everything took on an indescribable illumination." My second patient, in reference to this point, said this: "I feel all of one piece now. I feel all together, not rushing around in all directions at once." And it was in the light of his new set of emotions that the patient could and did respond more satisfactorily to a discussion of what his previous difficulties had been and what he could do now to avoid any further trouble. After his synthesizing experience, he was for the first time really able to do an honest, decent job of self-understanding.

The lesson for psychiatrists is clear, it seems to me. Although we admittedly deal with emotional problems, we, as a group which tends to be intellectual, distrust emotions too much. We are self-conscious and a little ashamed, when we are forced to use them, and always apologetic with our confreres if we suspect they have reason to think our methods are too emotional. In the meantime, others, less bound by tradition, go ahead to get results denied to us. It is highly imperative for us as presumably open-minded scientists to view wisely and long the efforts of others in our field of work. We may be wearing bigger blinders than we know.

RESULTS OF HOSPITAL TREATMENT OF ALCOHOLISM [1]

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In previous studies we have attempted to discover some of the important factors which were integral and dynamic parts of the personalities of those for whom drinking was a serious problem and for which hospital treatment was sought. The present study concerns itself with the results of hospital treatment of 100 men who were patients in the New York Hospital, Westchester Division, sometime between 1934 and 1940. They were the total consecutive admissions of men patients in whom the immediate cause of hospitalization was alcoholic over-indulgence. The statistical diagnoses were as follows:

Alcoholism without psychosis	81
Delirium tremens	9
Korsakow's psychosis	5
Acute hallucinosis	3
Acute psychosis, paranoid	2
	100

The family background of these patients was similar to that found in our previous studies. They came from middle class and better than average homes from the standpoint of cultural and educational advantages. In the two preceding generations of 62 patients there were one or more relatives who had drinking problems; among them were 35 alcoholic fathers. We found that many of our patients identified themselves with these alcoholic relatives. In 59 instances the mothers spoiled, pampered and over-protected their sons. The over-solicitous mother was found in combination with a successful and forceful father in the history of 57 patients. The pathological but ambivalent fixation on the mother and the awe and fear of the father, with the resultant inability to identify themselves with him, seemed responsible for the development of a passive and effeminate approach to life in 46 of our patients' personalities.

Our patients came from predominantly small families, 61 coming from families who had less than three children. Histories of the infantile period of their lives and of weaning difficulties were extremely difficult to obtain and yielded nothing significant to the etiology of their alcoholism. The patients' education was commensurate with their advantages; 63 were college graduates. Between 40 and 50 had shown lack of ambition and of well-formulated plans for a career, although some were outstanding men in business. There were 7 physicians, 6 lawyers, 2 writers and 1 poet, sculptor and teacher. The psychosexual development of the patient who suffers from alcoholism is similar to that found in patients who suffer from other functional personality disorders. After a thorough study of the sexual life and the pathological social and inter-personal relationship of some of these patients, we wondered how the individual had continued so long in such a precarious adjustment. Some students of alcoholism have gone so far as to say that alcohol is one of the patient's minor problems. When drinking begins with puberty and unfortunately becomes associated with sexual prowess in the mind of the patient, we see the beginning of a pattern in which a fundamental human relationship is placed on a false basis.

These individuals felt bolstered by alcohol and came to depend upon it in all their other inter-personal and social relationships, thus deceiving themselves and their admirers into the belief that they were making satisfactory adjustments. Overt homosexuality was rare, but the mother identification and the effeminate approach to life have already been indicated. In contrast there were 43 who were boastful and aggressive in temperament. They stood frustration poorly, were impatient and incapable of sustained interest and effort. They often appreciated their lack of resiliency and toughness of fibre when home or business adjustments became boring and monotonous. Eleven patients had typical neurotic personalities. They were fearful, hypochondriacal, and suffered from

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tensions which alcohol temporarily allayed. The majority had to have many women in their lives. There were 47 who were definitely promiscuous, and unable to establish satisfactory or lasting relationships. They were fundamentally afraid of women, and frequently changed the one of the moment for another. There were 71 who had married, and of these, 39 had children. About 40 of them were upset by the strain of adjusting to marriage and assuming the responsibilities of parenthood. Twenty-two were divorced. The instability in their psychosexual development is obvious.

For the entire group of 100 patients the average age to begin drinking was 23 years, five years later than the age we found in our previous study. This was undoubtedly due to the greater number of older men whose initiation into alcoholism was associated with some unusual life situation. There were 63 who began to drink before the age of 21 years. In our patients, early drinking was depended upon to assist in making some important adjustment to life. It was definitely in the nature of solitary drinking. This subject has been adequately covered in our previous studies. The average age at the time of admission to this hospital was 37½ years, less than a year's difference from the average age found in our previous study. At the time of admission the physical condition of the group was better than that of the patients studied by us previously, except in the few men who were suffering from organic mental reactions. The constitutional types were: 50 athletic, 27 pyknic and 23 asthenic. The mental trend depended upon the personality structure of the individual, unless the patient showed intellectual impairment in the setting of an organic mental reaction.

Some of the patients discussed above may best be demonstrated by the presentation of illustrative case histories.

CASE 1.—Mr. D. E. E. was admitted to the hospital in January, 1937, on his own petition for inebriate commitment which specified his excessive indulgence in alcoholic beverages for seven years. He was aged 44 years, Catholic, married, a business executive, of mixed Dutch and Irish racial extraction. His father, deceased, a competent lawyer, had been a total abstainer from alcohol. One paternal uncle was psychotic; another, alcoholic. The patient was an only child.

He graduated from college at 22 and then studied law evenings for two years, while acting as private secretary. After an interruption, caused by his service in France during the First World War, he returned to civilian life again as a private secretary. For the last eight years he had been associated in business with a dominant, successful and stable maternal aunt. He was under her direct observation until three years prior to his admission to the hospital. He was gay, humorous, social, fond of music, liked to dress well, but had little interest in women.

He was first known to drink at 23. From 28 to 33 he drank occasionally to excess, but not sufficiently to interfere with his work. Then he married a socially inferior divorcée, of a different religious faith, when he was under the influence of liquor. At once he became more reticent. Five years later, when 38, his only child, a son, was born. Soon there was friction between the patient and his wife over religious matters and the question of children. His drinking now began to interfere with his work.

About four years later, when 41, and three years before his hospital admission, he moved some distance away to a branch of his aunt's business where he was directly responsible for its management. Soon he was consuming 64 ounces of liquor in 24 hours. He had a mild attack of delirium tremens six to eight months before his admission, during which he thought he heard music and felt his eyes were not working right. A short time before admission he was in intense conflict with his wife and their religious advisers which increased his feeling of guilt. His letters and conversation portrayed this and his drinking greatly increased. He had repeated treatment for alcoholism in local general hospitals. He ran up large debts, but denied gambling. His employer, his maternal aunt, refused to support him unless he sought prolonged hospital treatment.

On admission he was well developed, of pyknic habitus. His palate was high with a distinct torus formation. His teeth showed caries. His liver was palpable and one testicle was slightly atrophic. There was a tremor of his tongue and extended fingers. At first he was affable, pleasant and congenial, but quiet, reserved and self-conscious, although anxious to please. He soon adapted to the group of patients he was with and became one of the active participants in all program activities. Later he became hypochondriacal, restless, and about 2½ months later he was unduly apprehensive when a rectal abscess was incised. He displayed instability when crossed in the slightest way and was uneasy following a visit from his wife. He complained frequently of headaches and gastric distress, felt he was unjustly hampered by restrictions and was discharged at the request of his aunt early in July, five months and seventeen days after admission. Although irritated he was reassured to discover that he could manage his tension without alcohol. He ventilated thoroughly his domestic friction and the problems of his work.

On January 21, 1943, a letter was received from his aunt with the following notation:

"It is with great satisfaction and pleasure that I can, in reply to your letter, tell you that my nephew

has never taken a drop of liquor since he left your hospital. I did not take him back in the organization but let him start a small business of his own which I knew would not work out successfully, but I felt it would help him to find himself, and then when he failed at that I took him into my firm where he has become, as before, a most valuable member."

This case study displays the neurotic type of personality. The patient was fearful, hypochondriacal and suffered from tensions which alcohol temporarily allayed. These arose whenever he tried to assume full responsibility and conduct a business on his own initiative, but he was sufficiently capable that when he would accept his limitations and work under the supervision of a more capable and dominant personality, he did well. Like so many of our alcoholics, he also showed difficulties in his psychosexual adjustment, in marrying a divorcée of different religious faith and of lower social status, and when under the influence of alcohol, and of being dependent on a maternal aunt.

CASE 2.—Mr. A. R. was admitted to the hospital in November 1938, on his own inebriate commitment for six months, which specified he had had difficulty with excessive drinking for eight years. He was aged 30 years, Protestant, divorced, a lawyer of mixed Scotch and German extraction. His father was successful and self-disciplined; his mother, neurotic, possessive and domineering. He was the youngest of four siblings. One older brother was a psychopath and the other was alcoholic. He was subject to asthmatic attacks and colds, following a severe pneumonia at the age of three. He graduated from college at 22. While he indulged in social drinking and got into minor conflicts with the college authorities, his father's influence prevented any serious complications. He knocked down a woman while driving an auto under the influence of alcohol. His father had little time to give him direct supervision, but his mother dominated him and he was subservient to her. He was socially inclined and had a talkative, boastful personality that made him popular with young women. He was politically inclined, fond of reading, liked psychology, sociology and history, but cared little for athletics, clubs or religion.

His drinking first became a problem for him when aged 23, soon after he came East to attend law school. It reached such proportions that he sought relief from lay therapists for alcoholism. He left law in his senior year without graduating because of his interest in a young lady and because he could practice law in a western state without a legal degree. Following his marriage he practiced law successfully for a few months, working in his father's office, but he soon was drinking excessively. When 27, a year following his marriage, his wife was obliged to leave him and to seek a divorce. He gave up the legal profession and did some newspaper and irregular literary work for about a year. A year before admission he resumed his legal practice with moderate success, being associated with his older alcoholic brother. When the latter died, the patient drank more than ever, with increasing susceptibility to its effects and a resulting poor vision, but he never had delirium tremens. He often fell and hurt himself. His father then persuaded him to enter the hospital.

He was of slim, asthenic habitus. A Harrison's groove suggested an old rickety dystrophy. His teeth were carious. The lungs revealed inspiratory and expiratory wheezing in deep inspiration. X-rays showed bilateral adhesions to the diaphragm.

He was restless, nervous, tense and talkative at first. He discussed his problems objectively and boasted of his insight. He soon became cooperative and appeared anxious to make the most of his opportunities. He accepted restrictions well. About five months after admission he was allowed to go to a near-by city with another patient. He returned intoxicated and contrite. He admitted an anxiety attack in the city, when he contemplated meeting friends of the patient who had accompanied him. He was serious and sincere in discussing this and seeking help. Soon he was again optimistic and boastful. Throughout his hospital residence he was indulging in fantasies of what he would like to do, but at the same time he assumed a nonchalant, carefree attitude, sat with the chair tipped back, with his feet on the table and his thumbs in the armpits of his vest, and expatiated upon his previous exploits and his knowledge of the world in general. He left for an extended visit with his father five months and 26 days after admission and was discharged at the expiration of his six months' inebriate commitment.

Two years later he wrote: "It is very gratifying to me, and I am sure it must be gratifying to you and the hospital, to report that during these two years I have been well and have had no trouble from alcohol. I have not had a drink of any kind of liquor, beer, wine, nor have I had to use any sedative drug or anything else for my nerves. My health is O. K., my weight is up where it was when I left, my nerves are under control and my confidence is high. Until about a month ago I was associated in one of the biggest and best law firms in ——— and quit to open an office of my own."

Recently, nearly four years since leaving the hospital, a letter was received from the patient's father confirming the above, stating the patient was still abstinent from alcohol and a candidate for an important political office.

This patient has done much better than had been anticipated when he left the hospital. He had a good intellectual background, ability and interest in the practice of law, and a desire while in the hospital to understand himself better in spite of his boastful-

ness and playboy attitude. While in the hospital he also had time to recover from the effects of the death of his favorite brother and the divorce of his wife. He also was helped to break up the former marked dependence upon his mother. Since leaving it is evident he has been able to stand on his own feet.

CASE 3.—Mr. P. W. J. was admitted to the hospital in August 1937, on his own petition for inebriate commitment which stated he had been drinking heavily for 15 years and had reached the conclusion he must do something about it. He was referred by a former alcoholic patient who had been treated in the hospital but had not done well. He was 35 years old, Protestant, divorced, an insurance manager of mixed Anglo-Saxon stock. His father, deceased, had been a hard driving, efficient business man who drank heavily. His mother was emotional, introverted and religious. In this case the patient had greater difficulty adjusting to an older brother, a successful but intolerant total abstainer, who was his only living sibling.

Life at first had been happy for this patient, but he soon learned the value of temper tantrums in getting what he wanted from his mother. When he started to attend school, the other children teased him because of his short stature, his protruding upper teeth, and his receding lower jaw. His first obvious feelings of inferiority were developed. Later he stubbornly resisted a dentist's effort to produce better occlusion. He matured at 14 and passed through an autoerotic period without conflict. He started to drink in college. Shortly after he graduated at 22, his father died. He entered the latter's business and worked under the direction of his more intolerant older brother with varying degrees of success for 11 years. He at once increased his alcoholic indulgence, and this became excessive following his marriage at 23. The birth of a son the next year added to his responsibilities. His drinking led to a legal separation from his wife and later divorce. It also led to the breaking of his business association with his brother when he was 33. During the next two years he had two positions but they were soon terminated by his alcoholism. An institutional residence of a month and contacts with various physicians effected little relief.

He was of athletic habitus. His physical condition was good aside from carious teeth. He had a narrow upper jaw and a high palate. His features were effeminate; his body hair scanty.

In hospital he was generally content and passive. He appreciated that the longer he remained the better he felt. He was associated with other patients who had as marked inferiority feelings as he. He conceived the idea, under some suggestion, that for him or any other alcoholic to be successful, it would be necessary for them never to drink again. He believed he had a talent for writing. He developed his ideas about alcoholism in a paper. He became a helpful influence in the hospital among the other alcoholics in pointing out to them that they never could drink again, if they wished to stay out of difficulty. He improved the general morale of the alcoholic group of patients. He was considered sincere by them and they admitted that his remarks were pertinent. He told his physician that he considered himself a little superior to the other alcoholics, or at least wiser than they. He left the hospital for an extended visit in February 1938, six months and five days after his admission. He was discharged at the expiration of his year's inebriate commitment.

He had his paper published anonymously in *Mental Hygiene*. He returned to the hospital some time later and talked about alcoholism before a group of physicians at a medical meeting. In January 1943, a letter was received from the patient in which he stated: "I have never touched a drop of alcohol in any form and I mean this literally." His brother confirmed this in another letter, writing as follows: "I am quite certain that he has not taken a single drink since he left White Plains five years ago. He has completely rehabilitated his entire life, is married again, to a fine woman, and now has a young son. He is working for me and doing splendidly."

This patient came to the hospital seeking help. He was willing to remain sufficiently long to obtain help, and in doing so learned to overcome many of his feelings of inferiority. He saw many other patients worse off than himself, and as a result compensated by assuming more of a superiority attitude, but one which was consistent with his beliefs and which did not lead to his trying to annoy others, but to be honestly helpful. He learned to be tolerant of others, especially his brother, and he resolved his psycho-sexual difficulties satisfactorily.

TREATMENT

The patient who is suffering from alcoholism requires a prolonged period of abstinence and reeducation, and it is of interest to note that the average duration of hospital residence of the 24 patients who have fully recovered was six months. The patient is requested to petition for his commitment as an inebriate preferably for twelve and at least for six months. Experience has shown that this is the best plan although commitment is not insisted upon in all instances. Of the 100 patients there were 41 voluntary admissions, whose average hospital residence was only three months and six days.

During the past fifteen years we have seen a change of attitude in many patients who came to us for treatment of alcoholism. They have read the articles and books by pa-

tients with alcoholic problems and they have known of the downhill course of many of their untreated associates. A few of our patients are referred by others and the friendship has been a sustaining factor throughout hospital treatment and adjustment at home.

Soon after admission they appreciate that their underlying psychopathology is as serious as that of the patient who is suffering from a psychiatric disorder of a functional nature. There is less standoffishness and "holier than thou" attitude toward the mental patients. The mental patients also have read about the gravity of the alcoholic way of reacting and adjusting, and they accept the inebriate more sympathetically. The leading spirits of a recently published patient's newspaper were a recovering schizophrenic patient and an alcoholic. This change has definitely helped the alcoholic to have a feeling of belonging.

The physician learns to look behind the mask of breezy affability or demanding irritability and argumentativeness to the underlying personality problem. The patient, too, has come to realize that drinking is one of the minor parts of the whole problem, and that it is not surprising that a person so involved and maladjusted must never drink again if he wishes to maintain a successful adjustment.

At the time of admission, the patient receives a thorough physical and neurological examination. This is supplemented by examinations by our consulting internist, ophthalmologist, otologist and laryngologist and genito-urinary surgeon. Complete laboratory studies are done, together with X-ray or other needed studies. If any physical conditions are found they are corrected. The physical treatment of the acute organic mental reactions associated with alcohol is outside the scope of the present paper.

The therapeutic program is under the supervision of the physician to whom the patient is assigned. A physician who is interested in these patients and the problem of excessive drinking is most desirable. The patient must be made to realize that he is different from moderate drinkers who have never been in serious trouble as a result of their drinking. He must understand that his personality problems demand as much attention and effort in readjusting as in the case of a severe neurosis. We have stressed the points in detail in our previous studies. He must come to appreciate the truth of the matter: that no person whose drinking has brought him to this state of inadequacy should ever drink again. His assets must be stressed and his capacity for development into finer and better adjustments must be pointed out and reiterated. The psychotherapeutic interviews continue throughout the period of hospital residence, and subsequent occasional interviews are most helpful, when the patient is beginning to adjust at home and at work.

The treatment includes physiotherapy, massage, hydrotherapy, steam and electric cabinet baths, and ultra-violet light, which are particularly helpful during the first few weeks when the patient is physically run down and is unable to participate in the more strenuous activities. These patients enjoy the physical education and occupational therapy program. They frequently crave excessive and exhausting activities and in the beginning resent direction and instruction. Later they see the need for this in achieving better coordination and more satisfying accomplishments for their efforts. Many of these patients need the relaxing value of play and comment that this becomes a substitute for the relaxing effect of alcohol. One of our patients became interested in printing in occupational therapy, and established a successful shop of his own after leaving the hospital. Another has earned a comfortable living from a craft shop after learning this work while under treatment. Previously he had been a failure in the advertising business.

The dances, card parties, informal social gatherings, group singing, operettas and plays are enjoyed by these patients, who are pleased with their ability to enter into these activities enthusiastically without drinking. Naturally they are encouraged to continue a balanced program of living when they return to the community.

RESULTS

Our follow-up study covered the activities of the majority of these men from three to eight years after their hospital residence. The results of their treatment are statistically classified as follows:

Still drinking, unimproved	33
Drinking, but managing better	19
Recovered	24
Died in hospital	3
Died after leaving hospital	12
Not heard from since leaving	9
	100

It is difficult to determine the benefit of psychiatric treatment statistically. Many of the 33 patients who continued to drink later were abstinent for a few months after treatment. Their families were given a period of respite and were able to obtain a better perspective of the situation. An opportunity to rearrange the home environment was afforded and many of our letters from the relatives of these patients expressed these views.

Of the 43 patients who were benefited by treatment, 24 have not taken alcohol in any form and have shown continued progress in their adjustments to life. It should be emphasized that the average duration of hospital residence of the 24 who recovered was six months. Of these, 13 were committed as inebriates. Some of these patients remained longer than one year, in which instances the patients felt that their difficulties had not been sufficiently worked through, and they were readmitted as voluntary patients upon the expiration of their inebriate commitments. On the other hand if we felt that there was a stabilizing situation arising in the home or in business or professional life that necessitated the patient's presence or which would stimulate his sense of responsibility, we encouraged the patient to return to it regardless of his status.

The 19 patients who are managing better, but who continued to drink from time to time, are a most interesting group. They continue to struggle with their problems. One of these patients recently called his physician to tell him of some dreams and fantasies which had occurred during a period of intoxication. He felt they were of some dynamic significance and he was afraid he would ignore them in the next interview. These men are gainfully employed and have not been as badly involved as before.

The 52 patients on inebriate commitments averaged six months and 15 days in the hospital, while the 41 voluntary patients averaged only three months and six days. The average period of hospital residence for the entire group was four months and 17 days.

Many of our patients have been interested in helping others through writing and speaking. The third patient whose case history was presented is a good illustration. Others have written books on the subject, while others have made intensive studies of the social aspects of the problem. One patient has continued to devote all his time to the work of preventing alcoholism. When these patients are truly altruistic and deeply motivated in their interest, such activities have been encouraged. When their motives were on an exhibitionistic basis, and were serving the purpose of remaining close to the problem without a deep resolve to progress with abstinence, the patients have met with failure. Seven of the group have been associated with Alcoholics Anonymous since leaving the hospital, including five of the 24 who recovered. They were helped by the organization. Most of the recovered patients and those who have managed better have kept in touch with the hospital, visiting from time to time to express appreciation for what has been done for them and to have a talk with some member of the medical staff or the personnel.

SUMMARY

1. A study has been made of 100 men suffering from alcoholism, admitted to the New York Hospital, Westchester Division, between 1934 and 1940.

2. A review of the family background has shown the common occurrence of excessive drinking in the relatives, the predominance of small families, and an indulgent, pampering type of mother in 59 instances.

3. The drinking usually began at an early age and continued for an average of 15 years before serious treatment was undertaken.

4. Follow-up studies of these 100 men three to eight years after discharge revealed that 24 were recovered, and 19 were managing better, making a total of 43 who had been definitely benefited by treatment.

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INTELLECTUAL IMPAIRMENT IN HEAD INJURIES [1]

JURGEN RUESCH, M. D.[2]

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Introduction

The present investigation is one of a series of studies [3] concerned with the sequelae of head injury. A series of cases was observed from the earliest possible moment following the accident for the purpose of inquiring into the modes of development of various posttraumatic disabilities, as it was thought that a complete history of the disorder from its onset might facilitate the determination of future defects. This particular study represents the result of an attempt to investigate the nature and occurrence of intellectual impairment as well as to find the methods most suitable for demonstrating such a defect. In the course of the paper the following related topics were treated: the methods of evaluation of intellectual impairment in head injuries; the results of application of ordinary psychometric methods, and of tests especially constructed for head injury cases; the relationship between intellectual impairment and other signs of head injury; and last, the mental functions affected.

Review of the literature revealed that most approaches to measurement of mental functions in head injury have been either psychiatric, with disregard of quantitative measurements, or psychological, with neglect of the neuro-psychiatric features. A few authors, however, have attempted a synthesis of all aspects. Goldstein(9) in his monograph on brain injuries stressed the qualitative psychological and neurological changes in the aftereffects of war injuries, and gave an excellent review of the subject. Schilder (22) reported his experiences with psychometric tests in specific cases. Several investigators have concentrated more on single aspects. Conkey(4) published a quantitative study on psychometric changes after head injury. Benton and Howell(2) recently reviewed the literature and reported one case, emphasizing the field of personality changes. Acute traumatic psychoses have been described by Meyer(15) and Schilder(22), and this same subject was subsequently reviewed by Bowman and Blau(3). Neurological and surgical complications were treated in the publications of Munro(17). Denny-Brown(6) recently summarized experiences of sequelae of head injuries in World War II. Comprehensive reviews of the whole problem of head injury can be found in Strauss and Savitsky(23) and Brock(3). Since all the aspects described above are manifestations of the same injured brain, the present study attempted to relate the psychological disturbances with the clinical signs in a series of three publications. The first two dealt with the acute phase after injury and with the analysis of a number of severe cases(16, 20). The present study

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[3] The work described in this paper was done under a contract, recommended by the Committee on Medical Research, between the Office of Scientific Research and Development and Harvard University. The investigation was conducted at the Neurological Unit of the Boston City Hospital.

considers the methodology and the evaluation of impairment in general.

Case Material

The population studied consisted of hospitalized patients, a number of whom submitted later to re-examination in the outpatient department. The majority of the cases were brought to the Boston City Hospital within a few hours after the accident. Usually the psychological examination took place one or two days following the accident, although in cases with prolonged disturbances of consciousness testing had to be postponed until cooperation became satisfactory.

Age, sex and intelligence distributions varied slightly in the three series of patients investigated. It was shown elsewhere(20) that an unselected group of head injury cases at the Boston City Hospital had a mean age of 39 years and a ratio of 4 males to 1 female. Another series of 70 unselected cases, which was reexamined in the outpatient department several months subsequent to injury, had an average I. Q. of 94.5; the mean value for the highest school grade passed was 7.8, expressed in terms of years. These figures indicate that as far as intelligence is concerned the population studied belongs to the low average group, and that with regard to formal education the majority of the subjects fall into the lower 60 per cent of the population. All nationalities were represented, although the majority of the subjects were of Irish origin.

Methods Used for the Evaluation of Intellectual Impairment

Impairment is the term used by the author to describe the result of the decline of intellectual functioning. The word "deterioration" refers to a condition of severe impairment, usually associated with changes of emotions, personality and behavior. While measurement of intelligence compares an individual's abilities and capacities with those of many people of the same age, measurement of impairment compares an individual's present condition with his previous optimal level of functioning. It follows that the testing of a subject's intellectual status must be supplemented by information regarding his earlier intellectual endowment. In order to obtain this material, repeated attempts have been made to devise tests which would demonstrate simultaneously the subject's past and present intellectual status, and thus obviate the necessity of taking his past history. The underlying principle in these procedures was to compare the performance in a vocabulary test with that in other tests involving learning and memory functions. Because vocabulary declines only slightly with age and in cases of deterioration (Wells and Kelley(28), Babcock(1), Wechsler(25), Gilbert(8), Jones and Conrad(11)), it is one of the best single measures of general intelligence (Terman and Merrill(24), Wechsler (25)). The vocabulary range is a function of education, use of language, and reading. For this reason comparison of vocabulary with other test scores would have been unsatisfactory in a population with little or no formal education, like the one studied in this paper. Most of the subjects were male laborers, many of whom were unable to speak correct English. The other criterion frequently used as an index of deterioration is the scattering of test scores. Since the unsatisfactory education of the population studied did not assure an equal development of abilities to begin with, the use of the criterion of scattering was also abandoned.

The search for other ways to evaluate intellectual impairment led to two procedures which were applied independently.

A. Comparison of a subject's estimated pre-traumatic level with actual measurements after the injury

The previous intellectual level can be estimated by determining the highest level ever reached followed by corrections necessitated by decline through age or disease. The following information should be obtained for this purpose:

Index of maximal abilities and capacities:

1. Highest educational level achieved, and at what age.
2. School grades repeated, which ones, and at what age.
3. Highest earning power in dollars per week, and at what age.
4. Highest occupational status, and at what age.
5. Highest social status (public office, official of club, church, etc.), and at what age.

6. Leisure time occupation: hobbies, sports, and at what age.

Index of recent pre-traumatic decline of intellectual functioning:

1. Loss and change of employment.
2. Carelessness at work and mistakes made.
3. Complaints of loss of memory, weakness, and fatigue.
4. Lack of insight, judgment, and reasoning displayed before the accident.

Knowledge of the highest school grade passed and the age at which a subject left school permits the estimation of the minimal mental age (Table 1). If a person left school for no other reason than lack of intelligence, one can assume that further development did not take place. The mental age figure at that date therefore represents the upper limit of the subject's intellectual maturity. It can be converted into a value which will indicate the probable I. Q. that a person will have when adult. In order to obtain this estimated I. Q. value either Table 1 or the following rule can be used: The normal I. Q. for any age is 100. For each year that a subject is retarded or advanced at school in relation to his age, he receives a credit or a penalty of five points, which is then added or subtracted from 100. Subjects with less than four years of education are given an I. Q. of 85.

In order to demonstrate the validity of such a procedure actual measurements were correlated with these estimates. I. Q. values estimated by means of the above rule correlated 0.53 with the actual measurements obtained after injury. The correlation of the estimate prepared according to Table 1 (Wechsler) with measurements obtained with the Bellevue scale resulted in a coefficient of correlation of 0.45. These estimates can be made more accurate if corrected by the available historical information; for instance, large earnings in spite of poor education lead to an upward revision of the estimate, while history of lack of judgment causes a downward correction. Although the correlation of 0.53 is satisfactory, it is not high enough to warrant its use for individual cases. It can, however, be used safely for determination of the intelligence level of a whole group, since the estimated and measured mean values for 70 cases were almost identical as can be seen from the following comparisons:

TABLE 1
COMPARISON OF SCHOOL GRADES, MENTAL AGES AND I. Q.*

Finished school grade	Finished mental age	Adult I. Q. after Fernald	Adult I. Q. after Wechsler	Chronological age
Kindergarten	5	30	...	5
1	6	40	...	6
2	7	45	42	7
2-3	8	50	49	8
3	9	60	58	9
3-4	10	65	68	10
4	11	70	78	11
5-6	12	80	86	12
7	13	85	92	13
8	14	90	97	14
First high	15	95	99	15
Second high	16	100	100	16
Third high	...	...	...	17
Fourth high	...	...	...	18

* After Fernald(7), Wechsler(25) and Manual of Regulations(14).

	Mean I. Q.	SD
Measured	94.5	13.1
Estimated by rule	94.2	7.5
Estimated from Table 1 (Wechsler)	93.6	11.4

It is occasionally desirable to have a subject's intelligence rating in terms of percentiles of the population. By means of Table 2 the highest school grade achieved can be converted into percentile values which, by means of Table 3, can again be expressed in terms of classification of intelligence. The estimates thus obtained, whether in terms of I. Q. or of percentiles, can be compared with psychometric performances. If at any time a test score falls below the estimated range of a subject's capacity, the measured per-

formance is very suggestive of intellectual impairment. This procedure is a crude method, and the number of impaired cases thus spotted is small. Among 53 repeatedly examined head injury patients only 15 (28 per cent) fell below the estimated range at any time after the accident.

the date of the accident the subject is tested, the more marked will be the impairment, if at all present. Out of 53 patients examined repeatedly, 25 or 47 per cent showed impairment, whereas 28 or 53 per cent had the same performance throughout the observation period of 1-3 months after the accident.

TABLE 2

PERCENTAGES OF U. S. POPULATION AND BELLEVUE ADULT SAMPLING IN RESPECTIVE EDUCATIONAL CATEGORIES*

Educational category	Estimated level of education of U. S. adult population ages 21 years and over (1934)	Actual educational level of Bellevue sampling—ages 20 years and over (1935–1938)
	Per cent	*Per cent*
College graduates	2.93	5.10
Some college work	4.08	3.77
High school graduate only	6.85	10.81
Some high school work	18.99	18.76
Elementary school graduate only	18.68	28.85
Some elementary school	43.58	30.17
Illiterates	4.69	2.55

* Reprinted by courtesy of D. Wechsler (25).

TABLE 3

ACTUAL INTELLIGENCE CLASSIFICATION ACCORDING TO I. Q. AND THEORETICAL CLASSIFICATION ACCORDING TO STATISTICS*

Classification	Actual		Theoretical	
	I. Q. limits	Per cent included	Limits in terms of PE	Per cent included
Defective	65 and below	2.2	− 3 PE and below	2.15
Borderline	66–79	6.7	− 2 PE to − 3 PE	6.72
Dull normal	80–90	16.1	− 1 PE to − 2 PE	16.13
Average	91–110	50.0	− 1 PE to + 1 PE	50.00
Bright normal	111–119	16.1	+ 1 PE to + 2 PE	16.13
Superior	120–127	6.7	+ 2 PE to + 3 PE	6.72
Very superior	128 and over	2.2	+ 3 PE and over	2.15

* Reprinted by courtesy of D. Wechsler (25).

B. IMPROVEMENT OF THE MEASURED PERFORMANCE DURING THE PERIOD OF RECOVERY

In this procedure an individual's optimal performance at any time following the injury was considered as the limit of his capacity. Any measured performance which fell below the level was considered as impaired. Though it is possible that some subjects never reach their pre-traumatic level again, and that this limit is therefore not a true representation of a subject's pre-traumatic abilities, the method at least permits the determination of the presence of impairment, if not its exact degree. The closer to

It can be concluded that if a subject shows no improvement in performance after the injury, the likelihood that impairment was present at any time is remote. Increasing test scores on repeated examinations indicate, on the contrary, a defect. The more marked the improvement, the more pronounced was the impairment.

The comparison of the two methods for the evaluation of impairment described in this paper reveals that the criterion of improvement can be found about twice as often as the presence of performance below the estimated intelligence. All cases of the latter group showed in addition the criterion of

improvement. It follows that the measurement of improvement is a finer yardstick for the determination of impairment than comparison of estimated and measured intelligence. The presence of the latter, however, usually indicates a more severe defect.

Results of a Series of Psychometric Tests

A series of tests was compiled which would allow the examination of a variety of mental functions. Since special attention was paid to the problem of repeated examinations, methods which could be applied only once were excluded.

A. DESCRIPTION OF THE METHODS USED

100-7 Test.—The subject is instructed to "take seven away from 100, then to take seven from the result obtained, etc." The performance is timed if done in less than two minutes; over two minutes is recorded as 120 seconds. The number of errors is counted by considering each subtraction as a single operation. More than six errors constitutes failure. According to Hayman(10), a subject with a mental age of 15 is able to perform the test with less than one error. It is therefore safe to assume that anybody who attended high school should be able to perform the test adequately, and that anybody who completed at least 7 years of grammar school should be able to finish the test, though with several errors. Since the starting point can be set at 102, 101, 100, 99, 98, etc., the learning factor can be neglected in repeated examinations.

Auditory Digit Span, Forward and Backward.—The subject is instructed to repeat the digits given him by the examiner. The digits are spoken at the rate of one per second, and a series of 4 is usually given first. The score is the highest number of digits repeated without error on either of two trials. For the repetition of digits backward, several examples are given until the patient understands his task. The examiner starts with 3 digits and the score is the highest number of digits reversed without error on either of two trials. The norm for adults is about 6-7 digits forward, and one or two less backward. If these two values are added the total should be 11-12 (Wells and Ruesch(27), Terman(24), Wechsler(25)).

Visual Span for Objects.—The subject is shown a picture with ten familiar objects (Wells-Ruesch Manual). The examiner, pointing to each object, one by one, asks, "What is this?" Then the picture is turned over and the subject is asked to repeat the names of the objects seen. Six or more items can be considered as the norm. Six different sets of pictures were provided in order to allow repeated examinations.

Pictorial Similarities.—Three pictures, each with 10 similar objects, such as tools, fruits, dishes, stationery, are shown to the subject (Wells-Ruesch Manual). The examiner then asks, "What are all these things?" If the subject starts to enumerate the objects he is asked to give one name which would express the similarity of all the objects. A normal adult should easily find all the correct names. The maximal score is 3. Different sets of pictures allow repeated examinations.

Pictorial Absurdities.—Two sets of pictures, containing five absurd items each, are used (Wells-Ruesch Manual). The subject is shown one picture at each session, and asked, "What is wrong with this picture?" For each absurdity recognized, one credit is given. The maximal score is 5. Normal adults of average intelligence should recognize 4 to 5 absurdities.

Pictorial Discriminations.—Two sets of pictures containing five items each are used (Wells-Ruesch Manual). The pictures are made to deceive the patient and represent objects which resemble another object; for instance, a radio looks like a suitcase, a compass looks like a watch, a rose looks like a cabbage. The subject is asked, "What is this?" If he does not name the right object, he is asked, "Could it be anything else?" For each item correctly recognized, one point is assigned. The maximal score is 5.

Behavioral Comprehension.—The material consists of ten questions, all of which refer to the problem, "What do you do if. . . . .

"1. You find a sealed envelope with an address and a new stamp on it while walking on the street?

"2. You are the first person to discover a fire while sitting in the movies?

"3. A dog barks, snaps, jumps at you, and you are afraid he might bite you?

"4. A man breaks into your room at night?

"5. You see a boy breaking through the ice while skating. How do you help him?

"6. You are asked to say what you think about a person you do not know very well?

"7. You are lost in a forest in the day time?

"8. You have lost the key to your home or your room?

"9. You have been accused of having done something you did not do?

"10. You find a pocketbook on the street?"

Two points are assigned to any response which solves the behavioral problem involved immediately and correctly. One credit is given if the response indicates an effort which might eventually lead to a solution. Any response which would either produce no solution, leave it to chance, or result in an undesired effect, was considered a failure. The test was repeated verbatim at different dates.

Verbal Similarities.—The material consists of ten pairs of words: orange-apple, coat-dress, kitten-calf, cup-plate, street car-bicycle, rope-string, silk-straw, chair-bed, sheet-blanket, wine-beer. The subject is asked to tell what these things have in common, how they are alike, and what is similar about them. The example of bush and tree is given, explaining that both are green, have leaves, are plants, grow in the ground, etc. The responses are scored as follows: A two point credit is given if the

response is relevant and consists of placing the two words in an abstract class or category, e.g., fruits, animals, etc. One credit is given if only a concrete resemblance is mentioned. No credit (failure) is given to any irrelevant response, to the mentioning of differences, or to responses such as, "It is the same." Maximal score is 20. The test is repeated verbatim at different dates.

Block Design.—The material consists of 16 colored blocks and nine design samples as described in Wechsler's Bellevue scale(25). The same instructions and methods of scoring are used. The test lends itself to repeated examinations.

Hole-in-the-board Test.—The material consists of a thick piece of cardboard 8" x 11" in which is punched a hole ⅛ of an inch in diameter. Over the board is placed a sheet of paper concealing the hole. The subject is given a pencil and told that there is a hole of a certain size underneath the paper and that he has to search for it with the pencil. Two credits are assigned for an efficient plan of search, which would necessarily lead to discovery of the hole (parallel or concentric lines not farther apart than ⅛ of an inch). One credit is given for any other plan. Any action without plan such as unsystematic search or no search at all is counted as failure. Plan 2, or the superior plan, corresponds to a mental age of 12; plan 1, or the inferior plan, to a mental age of 8 (Wells(26)).

B. COMPARISON OF TWO GROUPS OF CASES EXAMINED EARLY AND LATE AFTER HEAD INJURY

Table 4 contains the data of 90 cases examined with the methods described above and tested at the earliest possible moment after head injury. Forty of these cases were examined within 48 hours of the injury; 50 could not be tested until a later date, mostly because of lack of cooperation and prolonged disturbance of consciousness within the first two days after admission. Age and school attainment are about the same in both categories. It is evident that no statistically significant differences exist between the means of the two groups.[4] The values for both

TABLE 4

COMPARISON OF TWO GROUPS OF CASES EXAMINED EARLY AND LATE AFTER HEAD INJURY

	40 cases examined within 48 hours after injury		50 cases examined more than 48 hours after injury	
	No.	Per cent	No.	Per cent
100-7 test:				
Complete failure	14	35	17	34
Above time limit	8	20	11	22
	M	SD	M	SD
Errors	2.0	1.8	1.8	1.5
Time	62	28	71	41
Digit span:				
Total	9.4	0.9	9.4	1.9
Forward	5.7	1.0	5.9	1.0
Backward	3.7	1.1	3.6	0.9
Visual span for objects	6.0	1.1	5.7	2.7
Pictorial abstractions	2.7	0.7	2.5	1.0
Pictorial absurdities	3.8	0.9	3.5	1.9
Pictorial discriminations	1.7	1.6	1.9	1.8
Verbal comprehension	11.0	4.6	10.6	4.1
Verbal similarities	7.7	5.8	8.3	4.1
Block design	12.0	7.7	12.5	8.4
Hole-in-the-board:				
Plan	0.8	0.9	0.4	0.6
Time	59	22	59	26
	No.	Per cent	No.	Per cent
Above time limit	24	60	17	34
	M	SD	M	SD
Age	40	19	36	15
Highest school grade	8.1	2.6	8.3	2.9

[4] Conforming to customary statistical requirements differences of two means were considered significant when the difference of the means divided

groups, however, are below the accepted norms. The figure of 9.4 for digit total is about one sigma, the value of 12.5 for block design is about 2 sigmas below the norm established for a normal population (Wechsler(25)). Whether this is a result of impairment or of subnormal intellectual endowment of the group studied, is difficult to decide.

Comment

The reasons necessitating late testing lie in the incapacity of the subjects to submit to psychological examination. This inability is an expression of the severity of the injury as shown by the high incidence of fractures and of cases with bloody spinal fluid. Once consciousness has been regained, no striking psychometric differences can be found between a group with short disturbance of consciousness tested soon after the injury, and a series of cases with long disturbance, tested late after the accident. This seems to indicate that the character of the intellectual impairment in head injury is an all-or-none response. In other words, if the subject can be tested, he performs fairly well, even if a longer disturbance of consciousness followed the injury. It may be pointed out that this feature resembles the findings in low oxygen experiments, in which subjects are either conscious or unconscious,

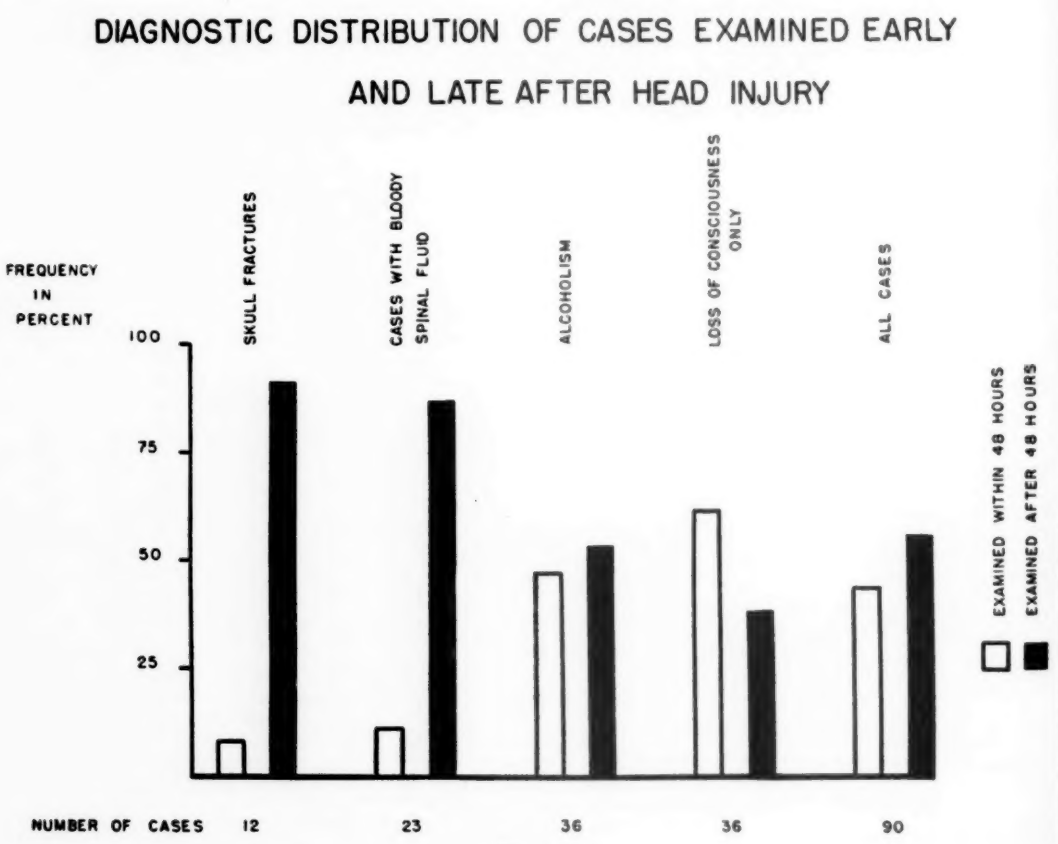

FIG. 1.

In contrast to the comparison of test scores, the frequency of certain neurological signs shows definite differences in the two groups of cases. Fig. 1 demonstrates clearly that within these series skull fractures and cases with bloody spinal fluid could hardly be tested within the first 48 hours. On the other hand, the patients with only loss of consciousness could usually be examined within 48 hours. The alcoholic group stands in the middle between the two extremes.

by the standard error of the difference equals or exceeds 3.0.

but where the transition period of intellectual impairment seems to be a relatively short one, expressed in terms of oxygen saturation of air or blood.

C. SENSITIVITY OF VARIOUS TESTS IN THE MEASUREMENT OF IMPAIRMENT IN HEAD INJURY

The validity of a test depends upon the fidelity with which it measures the function it purports to investigate. Statistics furnish several well known methods for the determination of validity, such as the correlation of the test with another criterion, or the computation of the average correlation with all of the other tests. In the case of head injury the first method cannot be used because no independent criterion exists for the determination of mild degrees of intellectual defect, except by measurement. The second method cannot be used either, because the tests do not examine the same mental functions. Since it was necessary, however, to determine which test would show the greatest difference of performance between early and late examinations after injury in the same individuals, the following method was used:

The best performance for every individual in each test item was secured. The scores obtained at the various examinations were subtracted from this optimal value. The differences thus obtained measured impairment for the given patient at that date. These figures were then added and divided by the number of cases tested to obtain the arithmetical mean. The mean values were then expressed in terms of per cent of the mean optimal performance of the same individuals at any time. A series of 53 patients was thus examined repeatedly. The first session took place 24 hours after the accident, the second during the later hospitalization period, and the third from 1 to 3 months after the injury.

TABLE 5
TEST RESULTS OF 53 REPEATEDLY EXAMINED PATIENTS

	M	SD
Age	34	18
Highest school grade	7.1	3.0

	Examined within 24 hours		Re-examined during hospitalization		Re-examined 4–12 weeks after injury		Optimal performance at any time	
Mean and standard deviation	M	SD	M	SD	M	SD	M	SD
100-7 test:								
Errors*	3.5	2.4	3.7	2.3	3.0	2.6	2.7	2.5
Time†	92	32	96	32	83	38	84	40
Digit span:								
Total	9.4	1.7	9.5	1.8	9.7	2.4	10	1.9
Forward	5.8	0.9	5.8	1.4	5.9	1.4	6.2	1.1
Backward	3.6	0.9	3.8	1.4	3.9	1.4	4.0	1.1
Visual span for objects	6.5	1.2	6.0	1.9	6.2	1.9	7.0	1.4
Pictorial abstractions	2.9	0.4	2.8	0.5	2.9	0.5	2.9	0.2
Pictorial absurdities	3.2	1.8	3.4	1.8	3.9	1.8	3.9	1.6
Pictorial discriminations	....	....	2.0	1.6	2.2	1.6	2.3	2.3
Verbal comprehension	....	....	10.0	5.9	10.9	5.9	11.1	4.6
Verbal similarities	....	....	7.6	5.5	8.6	5.5	8.7	5.5
Block design	....	....	7.6	5.5	8.6	5.5	15.7	8.1
Hole-in-the-board:								
Plan	....	....	0.6	0.7	0.5	0.7	0.5	0.7
Time†	....	....	93	35	80	47	49	50

* Failure has been counted as six errors.
† Failure has been counted as two minutes.

Analysis of the data (see Table 5) revealed that two types of patients could be distinguished. The first category showed stationary performance throughout the observation period (28 cases); the second group manifested considerable improvement [5] in terms of better test scores on each retest (25 cases). It was the performance of this

[5] Improvement was arbitrarily defined as an increase of scores in excess of 1 PE in at least two tests.

latter group which was used to analyze the sensitivity of the methods with relation to the specific impairment found in head injuries. The results are given in Fig. 2 which has been arranged as follows: The upper row shows the percentage impairment for all 3 examinations, arranged in decreasing order of frequency. Thus it can be seen that on the first examination the 100-7 test shows the greatest impairment (61 per cent) followed by the pictorial absurdities (39 per cent), the visual span for objects (23 per cent), the digit span total (23 per cent), and last by the pictorial abstractions (17 per cent). The lower row demonstrates the percentage impairment for the last two examinations in decreasing order of frequency. Here the hole-in-the-board test (60 per cent) comes first, followed by the pictorial discriminations (39 per cent), the block design test (22 per cent), the verbal similarities (14 per cent), and last by the verbal comprehension (7 per cent).

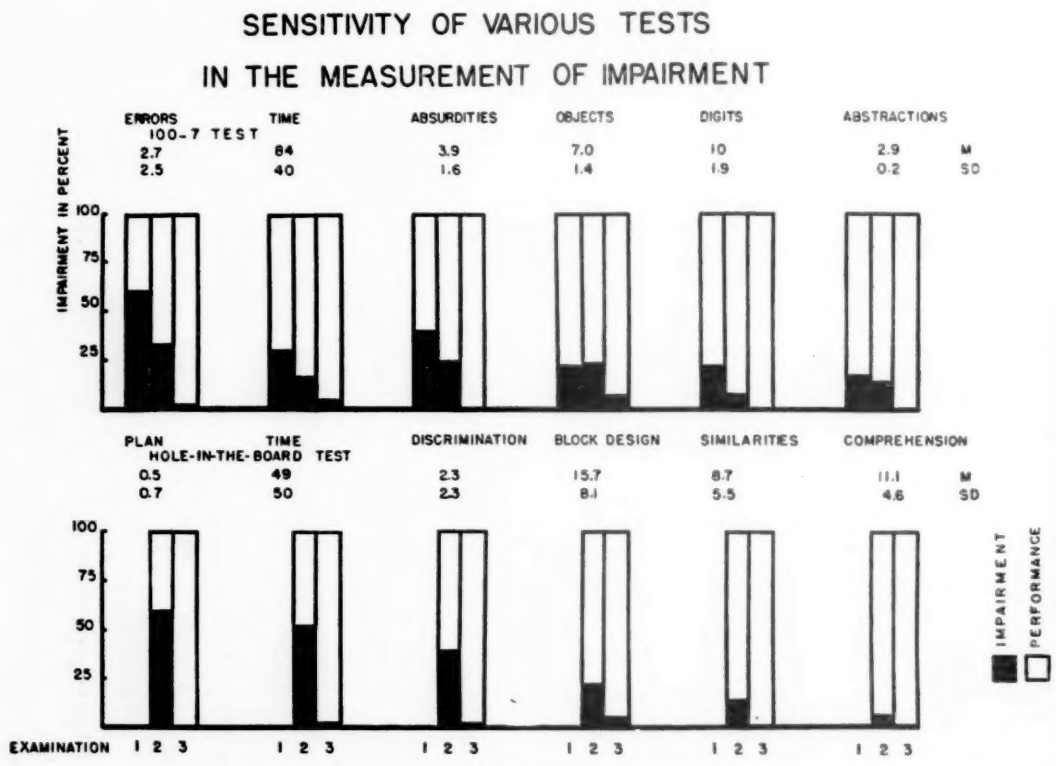

FIG. 2.

It seemed useful to relate the intellectual defect demonstrated by the above tests with the duration of the disturbance of consciousness. Fig. 3 shows that the 25 subjects with intellectual impairment have a higher incidence of long-lasting coma, semi-coma and clouded states than the 28 patients with no impairment.

Comment

Some of the tests prove to be more effective than others. The percentage impairment in the 100-7 test was most significant, followed by pictorial absurdities. It was shown elsewhere(20) that the improvement in terms of errors begins around the third day. If the information obtained in this study is added, one can see that the improvement continues for several weeks. Among the tests used during hospitalization (second examination) and follow-up (third examination) the hole-in-the-board test and pictorial discriminations were most useful for the demonstration of intellectual impairment. All these tests show that judgment and ability to keep up a sustained effort are the functions most severely affected. The functions

least altered are those related to old and well-established mental habits (verbal similarities, pictorial abstractions, comprehension).

The fact that intellectual impairment is closely related to the duration of coma, semi-coma and confusion indicates that both are possibly the expression of the same cerebral pathology. The idea that impairment and coma are different stages in the same scale of disturbances of consciousness has been advanced elsewhere(18, 19).

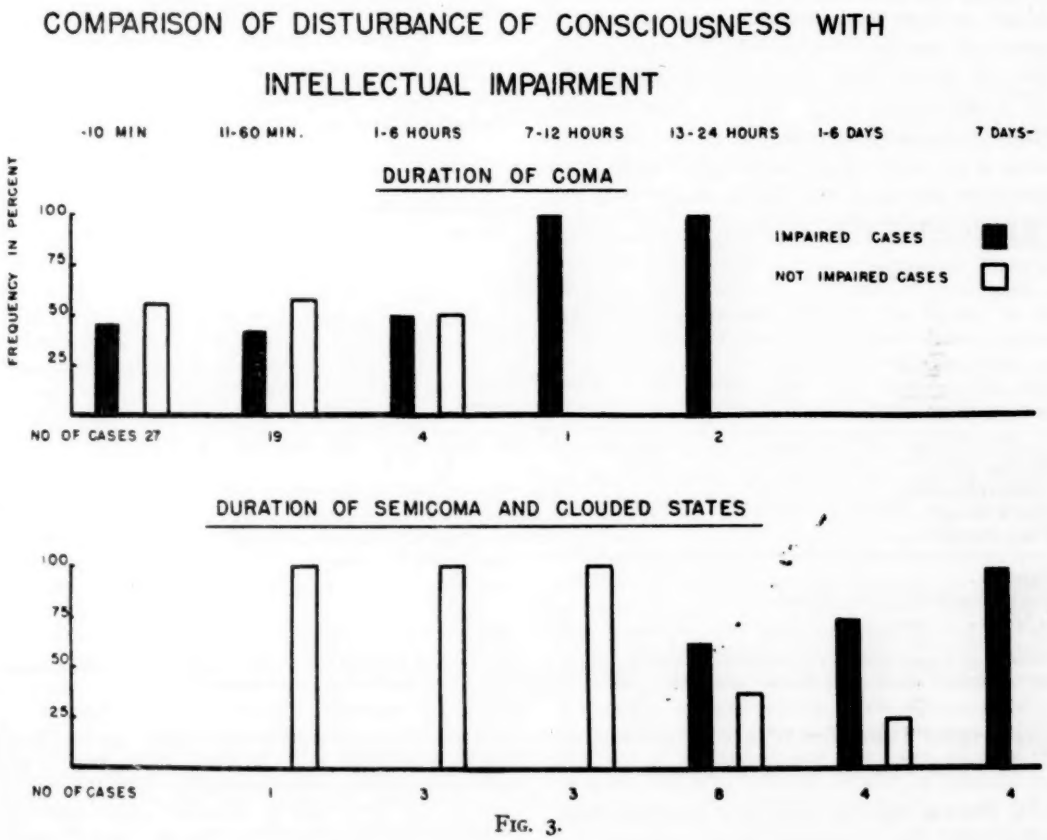

FIG. 3.

D. I. Q. VALUES OF 70 CASES, 1-3 MONTHS AFTER INJURY

Similarities, comprehension, block design, and digit symbol test were selected from the Bellevue-Wechsler scale(25) in order to obtain a measure of the intellectual level of the patients studied. Since these four tests correlate highly with the intelligence measured by the total scale, it was thought possible to omit the other procedures. This was necessary because any psychological test lasting longer than 30 minutes seemed to spoil the patient's cooperative attitude, required for later interviews. The I. Q. values were calculated by extrapolating the standard scores obtained with the 4 tests mentioned above.

The results are presented in Table 6. Among the 70 cases tested there were two groups of patients. The 17 severe cases comprised 3 subdural hematomas and 10 skull fractures; 10 cases had bloody spinal fluid. The second category consisted of 53 patients who suffered from loss of consciousness only. A comparison of the mean test scores of these two groups showed that no statistically valid differences existed. The level of performance of all 70 cases was ½ to 1 SD below the mean calculated for the average population, but no striking difference between performance and verbal tests could be found.

Comment

It seems of interest that severe and uncomplicated head injuries had about the same level of intellectual functioning, and that scores on performance and verbal tests were similar. These findings indicate that the common signs of deterioration, such as lower scores on performance as opposed to verbal tasks, cannot be found several weeks or months after the injury. The results of the block design test in acute and late stages also substantiate this point. Though it cannot be denied that any massive destruction of brain tissue may lead to deterioration, these cases with permanent defect represent only 2 per cent of all head injury cases(16). In these instances the block design test may be particularly affected(9).

TABLE 6

PSYCHOMETRIC TESTS 1–3 MONTHS AFTER INJURY

	All 70 cases		17 severe cases		53 uncomplicated cases	
	M*	SD	M*	SD	M*	SD
Similarities	7.6	2.8	7.2	2.7	7.8	2.8
Comprehension	6.8	3.0	6.6	3.6	6.8	2.8
Block design	8.0	3.3	7.6	3.7	8.1	3.1
Digit symbol	7.6	3.4	6.7	3.5	7.9	3.3
Age	35	18	....	....	....	....
Highest school grade passed	7.8	3.1	....	....	....	....
I. Q.	94.5	13.1	....	....	....	....

* These figures represent standard scores with a mean of 10 and a SD of 3. The SD values were calculated from the standard scores obtained and indicate that the actual figures differ slightly from those expected in a normal population.

RESULTS OF TESTS ESPECIALLY CONTRUCTED FOR USE IN HEAD INJURIES

A review of the previous sections indicates that the functions most severely affected are the ability to keep up a sustained effort, mental speed and visual judgment. If this conclusion proves to be correct, tests measuring these specific functions would be expected to show the defect best. In order to verify this hypothesis a new series of tests was constructed. Mental speed was singled out and measured in terms of the time needed to name colors and read words. The ability to perceive spatial relationships as well as retentive memory was measured by a specially designed block test. The learning ability was tested in severe cases by having the patient say certain words when colored lights were flashed on. The determination of the threshold of perception of successive stimuli as simultaneous was included, because of Werner's report(29) that children with injured brains perceive simultaneity at a markedly longer interval than do control subjects. Tachistoscopic measurements were added because Goldstein(9) recommends their use especially in head injury. A measurement of fatigue was included in order to investigate whether subjects could overcome ischemic fatigue and pain less well when judgment and will power are impaired immediately following head injury, in contrast to a few weeks after the accident.

A. DESCRIPTION OF THE METHODS

Mental Speed.—40 color samples comprised of 10 repetitions of 4 basic colors such as red, yellow, blue and green were used. The colors were punched out of cardboard and consisted of discs ¼ of an inch in diameter. These were then pasted on black paper 4 x 6" in 4 lines of 10 colors each. The different colors followed each other at regular intervals. The subject was instructed to name the colors as quickly as possible. The time needed to enumerate the colors was taken and the errors made were disregarded unless there were more than 10 which indicated complete failure. The procedure was repeated with the typewritten names of the colors arranged in exactly the same order. The time needed to read these words was taken.

Colored Block Test.—9 colored Kohs blocks were mounted on a threaded rod. For this purpose holes were drilled into each block, piercing the center of the red/white and blue/yellow surface. The blocks were then aligned on the rod so that each block could be turned around, exhibiting in succession the blue, red, yellow, and white surfaces. Wing screws at both ends kept the blocks fastened to the rod. The examiner then demonstrated a simple design, such as alignment of blue and yellow surfaces, al-

ternating in succession. The subject was instructed to look at the colors, their arrangement and sequence, and to try to remember everything as accurately as possible. Each color combination was exposed for ten seconds, whereupon the blocks were disarranged again by turning them around the rod. The subject was then asked to arrange the colors in the same order as previously shown.

The following combinations were used:

For demonstration—blue-yellow alternating.

1. Red-white alternating.

2. 3 red, 3 yellow, 3 blue.

3. 1 red, 1 white, 1 blue—1 red, 1 white, 1 blue—1 red, 1 white, 1 blue.

4. 1 blue, 3 red, 1 yellow, 3 red, 1 blue.

5. 2 yellow, 2 blue, 1 red, 2 blue, 2 yellow.

6. 2 red, 1 blue, 3 yellow, 1 blue, 2 red.

7. 1 blue, 1 yellow, 1 blue—1 red, 1 yellow, 1 red—1 blue, 1 yellow, 1 blue.

8. 1 red, 1 yellow, 1 blue—1 white, 1 red, 1 white—1 blue, 1 yellow, 1 blue.

9. 1 white, 1 white/red, 1 blue/yellow—1 white/red, 1 blue/yellow, 1 white/red—1 blue/yellow, 1 white/red, 1 red.

10. 1 red, 1 red/white—2 white, 1 white/red, 2 red—1 red/white, 1 white.

For these last two designs the blocks were pierced by a hole through the yellow and blue surfaces, thus showing in succession the red, red/white, white, and blue/yellow surfaces.

The advantage of this test lies in its easy application regardless of the body position. For this reason it is adapted for patients lying in bed. The above samples have been arranged in increasing order of difficulty. After two successive failures the test can be discontinued. For each correctly executed arrangement 1 credit is given. Maximal score is 10.

Colored Light Test.—In order to test the subject's ability to learn, four differently colored bulbs, connected with a battery, were mounted on a board. The lights were flashed alternately every two seconds in irregular sequence up to a total of 30 exposures. The task consisted first of answering "yes" to each blinking of the white light; as a second task a "no" was added when the green light was flashed. In a third trial the subject had to say "yes" when the white or blue light was seen, "no" when the red or green light appeared. A last task consisted of saying "yes" to the white, "no" to red, "perhaps" to blue, and "soon" to the green light. For each correctly executed task one credit was given. Maximal score is 4. Since normal persons can pass this test easily, it was especially used for drowsy and confused patients for whom other tests were already too difficult.

Threshold of Simultaneity in Visual Perception.—A rotating disc, 8 inches in diameter, containing one radial slit of ¼ inch in width, exposed alternately two 2.5 volt bulbs 2 inches apart from each other. The apparatus was framed in front by a black board so that the subject sitting 3 feet away saw only the two holes (¼ inches in diameter) behind which the lights flashed on and off. The disc was driven by hand by means of a film winder. The rotations of the disc were counted by a mechanical revolution meter. At a slow rotation speed of the disc, the lights were exposed alternately, giving the illusion of apparent motion, which consisted in seeing the lights move across from one hole to the other and back. At higher speeds, the light exposures followed each other at intervals of such short duration that they seemed to flash simultaneously. The subjects were instructed to indicate the moment at which the illusion of apparent motion ended, when the lights were seen at the same time, while the examiner gradually increased the rotation speed of the disc. Once the threshold speed was established, the revolutions made in a ten second period could be counted, thus indicating the interval in seconds at which the lights were exposed. This procedure was repeated 4 times. Control experiments indicated that the examiner was able to keep the hand driven speed constant within an error limit of less than 10 per cent.

Tachistoscopic Measurements.—A portable, small tachistoscope was built by attaching a shutter with lens (provided from an obsolete photographic camera) to a kodaslide viewer (Vuescope, Marshall Studios, Indianapolis). The subject was asked to focus through a small hole in the center of the shutter. Exposure times were varied from 1 second to 1/150 second and right and left eyes were examined separately. One digit figures, two digit figures, and simple geometrical designs were mounted on 2 x 2 inch glass plates and inserted into the viewer. The values given represent the sum of the threshold time needed to view the above-named figures, expressed in terms of 1/150 of a second.

Fatigue.—In order to test the subject's ability to overcome ischemic pain and fatigue, the following procedure was used(13). A blood pressure cuff was placed in the usual location around the arm of the subject, and was inflated until the pressure reached a level of about 200 mm. mercury, thus assuring a complete compression of the great arteries. The patient then was asked to open and shut his fists at the rate of one every two seconds. He was instructed to continue as long as possible until fatigue and pain produced by ischemia would induce him to stop automatically. The force exerted while making a fist was not measured because it depends more on the duration than on the maximal strength applied(21). The way a fist is made by the same individual is fairly consistent(21), so that the number of fists made by one patient can easily be compared at different dates.

B. COMPARISON OF A GROUP OF SEVERE HEAD INJURIES WITH A GROUP OF CASES WITH LOSS OF CONSCIOUSNESS ONLY

In Table 7 the mean values and standard deviations are given for the comparison of two groups of patients. Among the 15 severe cases there were 5 subdural hematomas, 4 skull fractures; all but 3 cases had bloody

spinal fluid. The 33 uncomplicated cases suffered from loss of consciousness only. Coinciding with findings discussed in previous sections, no statistically significant differences could be found between the two groups. It was striking, however, that in most instances the cases with simple loss of consciousness had better test scores than the severe cases; naming of colors and tachistoscopic perception were completed in less time, and the scores in the block test and colored light test were higher. The date of examination after the accident was naturally considerably later in the severe cases, since some of these tests required a good deal of alertness. The variability of test scores was greater in the group with severe head injuries.

within these series best measure impairment occuring in head injuries. If the improvement between the two examinations is expressed in terms P E of the second examination the classification given in Table 8 is obtained. Muscular fatigue, reading, and naming colors are good tests because less than 6 per cent do worse, while more than 40 per cent of the subjects improve, with test scores lying outside of the error limit. To a lesser degree the same holds true for the block and light tests, as well as for tachistoscopic examinations. The perception of simultaneity, however, has to be considered a poor test since 19 per cent of the cases have lower scores.

In order to examine the sensitivity of the tests used, 22 cases showing improvement

TABLE 7

	Severe cases		Loss of consciousness only		All cases	
Number of cases	15		33		48	
	M	SD	M	SD	M	SD
Naming of colors	47	29	31	15	36	21
Reading of words	17	11	21	6	20	8
Colored block test	3.0	2.4	4.5	2.6	4.0	2.6
Colored light test	2.3	1.7	3.7	1.0	3.3	1.4
Simultaneity*	10.4	10.3	12.6	5.6	11.9	7.6
Tachistoscope	41	67	22	46	28	54
Muscular fatigue	37	25	43	15	40	19
Examination in days after accident	8.0	9.2	2.4	1.9	4.2	6.1

* Frequency of exposures per second.

C. SENSITIVITY OF THE SPECIALLY CONSTRUCTED TESTS

In order to determine which test would indicate the greatest improvement on re-examination (sensitivity), a similar procedure to that outlined on page 481 was applied. The differences of test scores between first and second examinations were determined. Any subject who showed in any two tests improvement in excess of one respective P E (probable error) was considered to have improved. Thus, out of 36 cases examined 22 or 61 per cent were found to satisfy this condition. The first examination took place an average of 4.8 days after the accident (SD=6.7). The mean interval between the first and second examination was 48 days (SD=19.1).

Table 8 and Figure 4 analyze which tests were singled out and their mean improvement (difference of scores between first and second examination) was expressed in terms of the mean test scores on the second examination (Fig. 4).

The tachistoscope showed by far the greatest improvement (76 per cent) on the first test, followed by naming (48 per cent), reading (34 per cent), fatigue (33 per cent), blocks (31 per cent), lights (21 per cent), and last by simultaneity (5.6 per cent).

Comment

The best test to measure impairment is that which shows most improvement in terms of score intervals in the greatest possible number of patients. According to this principle, naming of colors, reading and fatigue ranked first. The next best was the block test

and then the light test. Although tachistoscopic examinations were valuable, changes were found only in a small percentage of subjects. Simultaneity proved unreliable, since no distinct trend towards better or worse performance was manifested.

The results demonstrated that the previously mentioned hypothesis proved to be correct. Mental speed, visual perception and the ability to keep up a sustained effort were affected in about half of all the cases suffering from head injury. Retention combined with perception of spatial relationships also showed defects in a smaller number of subjects.

TABLE 8

CLASSIFICATION OF TEST SCORES ON RE-EXAMINATION COMPARED WITH PREVIOUS PERFORMANCE*

	Distribution of 36 cases		
	Below − 1 PE	− 1 PE to + 1 PE	Above + 1 PE
Fatigue	6	46	48
Simultaneity	19	48	33
Reading words	5	52	43
Naming colors	2	56	42
Colored block test	3	67	30
Colored light test	0	80	20
Tachistoscope	0	87	13

* The improvement is expressed in terms of PE of the scores on the second examination.

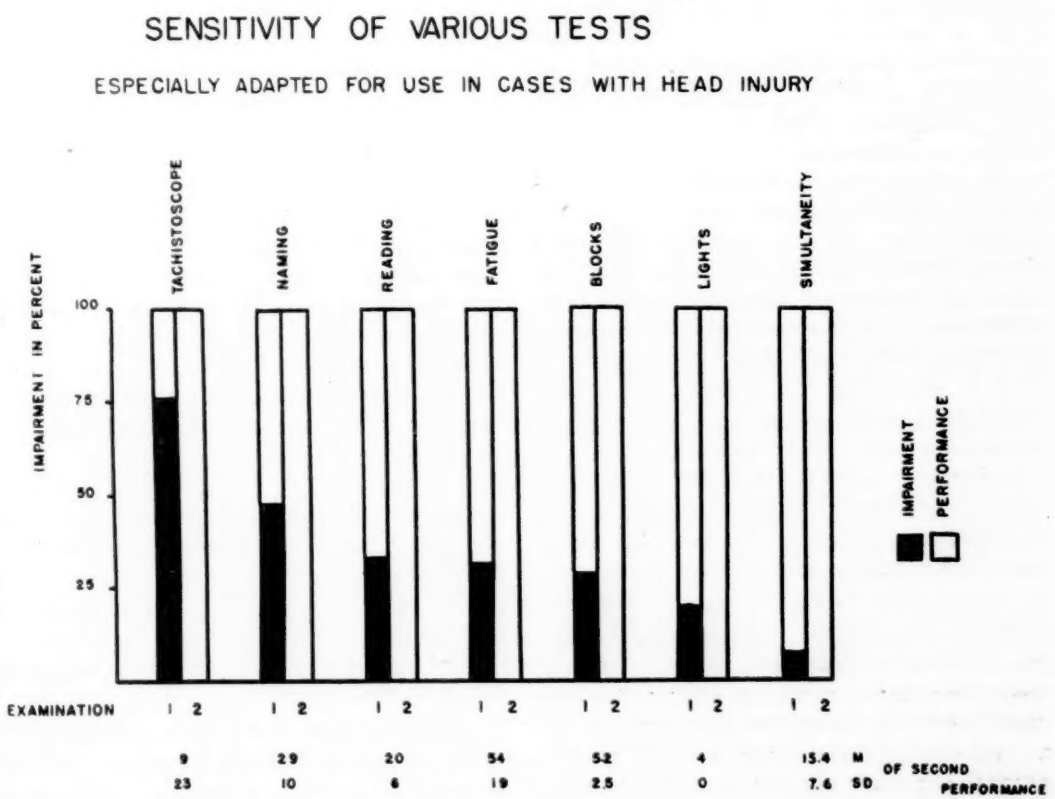

FIG. 4.

DISCUSSION

Various aspects of intellectual impairment following head injury have been considered in this paper. The occurrence of slight intellectual defects at any time after the injury varies from 53 to 61 per cent as

shown by two independently applied series of tests. The duration of this impairment is usually a matter of weeks, though the improvement can be first seen on the third day(20). The rate of recovery slows down in subsequent weeks and after about 3 months no further changes in test scores have been observed. In severe cases incidence and duration of impairment are somewhat different(16). All the patients who exhibited permanent intellectual impairment at the end of three months had preceding periods of disorientation lasting longer than 19 days. These mentally impaired cases represent 2 per cent of all head injuries or about one-fourth of the confused patients. Long-lasting coma or semi-coma are also more frequent in this group. Intellectual impairment, therefore, has to be considered the end stage of severe disturbances of consciousness. It has been shown elsewhere(19) that a scale of disturbed consciousness begins with intellectual impairment, followed by confusion (delirium), stupor, semi-coma and coma. In head injuries the loss of consciousness is instantaneous, and recovery is in the reverse order to the sequence described above. Severe brain damage seems to be the cause of prolonged disturbances of consciousness. This is substantiated by the fact that cases with confusion and impairment have a much higher incidence of bloody spinal fluid, skull fractures and intracranial hematomas than cases with short loss of consciousness only(16, 20). These are collateral evidences of greater severity of injury and are not necessarily the cause of the confusion. That uncomplicated cases show no defect after awakening from coma may be due to our present, rather unrefined methods. Defective functioning of any system is always best demonstrated when the organism must operate at maximum efficiency. When a great deal of brain tissue is destroyed, additional resources are not available and deficiency becomes evident. In cases with loss of consciousness only, the brain damage may be within such limits that available reserves are sufficient to maintain the level of ordinary performance.

It is interesting that the great majority of cases improve as time elapses between examination and injury, and only a very small percentage fail to show improvement. This is in accord with the general tendency of traumatic lesions toward improvement. On the other hand, animal experiments have shown(12) that undamaged parts of the brain can take over the functions of injured structures. If the latter explanation is correct, the value of therapeutic re-educaton should be more emphasized.

Special attention was paid to the methodology best suited to the problems of head injuries. It was pointed out that the only reliable method for detecting intellectual impairment is repeated examinations in the first stages following the accident. If the patient is seen several weeks after the accident for the first time, it is almost impossible to differentiate between low intellectual endowment and post-traumatic defect. Psychometric examinations should be done by the doctor in charge of the patient since the tests are so easy to give that no specialized training is necessary. The ability of the subject to submit to psychological testing is an especially valuable prognostic aid. This capacity, an indicator of coherence and cooperation, returns shortly before the patient's orientation becomes normal again. After this degree of recovery is reached, the colored light test, which requires only automatic responses, can be given. Next the patient is able to take the different picture tests, the various colored block methods, and finally the 100-7 test.

The procedures which best demonstrate impairment are the 100-7 test, and a series of methods involving judgment, including pictorial absurdities and the hole-in-the-board test. Speed of perception and reaction are also affected to a considerable degree as evidenced by the naming of colors and tachistoscopic examinations.

The results of these tests, expressed in terms of psychological functions, indicate that mental speed is retarded, the ability to keep up a sustained effort is reduced, and judgment in general is defective. Visual perception is often erroneous and perception time is increased. Energy necessary to overcome fatigue and pain is diminished. It is of interest that the usually slight and reversible defects found in head injuries differ from the type seen in general paresis or in the

senile psychoses. In all groups we find defects in judgment, in mental speed, and in the ability to keep up a sustained effort. In addition to these, however, cases of chronic dementia show difficulties in abstraction (similarities), retention (digits, fables), and in the handling of spatial relationships (block design); these functions are not significantly affected in our series. It also seems of interest that once full conciousness has been regained no striking differences between the impairment of severe and uncomplicated cases can be found. The slight and reversible defects following head injury thus seem to have a typical pattern, which may possibly be characteristic for the unknown process which brings about the sudden loss of consciousness.

Summary

1. This investigation is concerned with the frequency and nature of intellectual impairment in head injuries.

2. The methods for evaluation of defects are discussed with special reference to the two criteria used in this study: comparison of performance with estimated intelligence, and improvement on repeated examinations.

3. The following tests measured the impairment best: 100-7 test, pictorial absurdities, hole-in-the-board test, pictorial discrimination, naming of colors, and reading.

4. The mental functions affected are primarily: speed, judgment, and ability to keep up a sustained effort.

5. About one-half of all subjects suffering from head injury show slight intellectual defects. These become less marked with increasing remoteness from the time of the injury. If the impairment is reversible, the duration is usually a matter of less than 3 months.

6. The impairment seems to be related to the severity of the brain damage. The more serious the intellectual defect, the higher is the incidence of abnormal neurological signs.

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FREQUENCY OF CONVULSIVE DISORDERS IN FEEBLEMINDED[1]

Clinical and Patho-Anatomical Consideration

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Convulsive disorders and mental deficiency have a recognized relationship but the exact nature of this relationship is still a matter of controversy. Most authors are content to state that convulsive attacks are frequent in mentally deficient, or that many patients with convulsive attacks are mentally deficient, or have mentally deficient near relatives.

Biologic evidence suggesting a relationship between convulsive states and mental retardation is limited. Such relationship was suggested by the electroencephalographic studies which showed dysrhythmia in convulsive patients, but subsequent investigations have shown that dysrhythmia is not uncommon in mentally normal persons. The evidence linking feeblemindedness and convulsive states is at the present time largely morphologic and this does not satisfactorily clarify the problem.

The control of convulsive attacks is a serious problem in the mentally deficient because they do not recognize the need of medication and are often incapable of following directions. These attacks frequently make an adjustment outside of an institution impossible and constitute a continuous threat to life. According to the literature, in hospitalized mentally deficient patients the death rate during convulsive attacks is very high, reaching 39 per cent in those under ten years of age, with an average of 10 per cent in all cases. In our series of 254 cases, death occurred during an attack in 16.8 per cent, while 7 per cent of the patients died in status epilepticus.

How frequently the convulsive patient is mentally deficient is not definitely established. According to Lennox(1), only 11 per cent of epileptics are definitely deteriorated and 24 per cent are only slightly so. This author also believes that the thesis of close relationship of these two syndromes is mainly due to the presence of a large number of mentally deficient patients in institutions for epileptics and cannot therefore be entirely correct.

It is the purpose of this contribution to study the incidence of convulsive states in the mentally deficient, and to examine the data concerning the relationship of these two disorders more accurately. For a correct understanding of the problem, it should be borne in mind that from a patho-anatomic point of view, mental deficiency is not a distinct entity but may be divided into two large groups: (1) congenital or endogenous and (2) acquired or exogenous. From the standpoint of neuropathology the congenital changes are commonly expressed in terms of malformation of the brain and are caused presumably by inherited factors; acquired conditions may be inflammatory, vascular or traumatic in nature to mention only the most common conditions resulting in extensive destruction of the brain. There is, strictly speaking, no characteristic pathology of mental deficiency. If, on examination one finds, for example, microcephaly it is relatively safe to assume that there was mental deficiency. On the other hand many cases of low intellectual level have a brain which appears normal. In general it seems that the greater the degree of pathologic change the lower the intellectual level although this is not necessarily true.

The brains in our series were examined and described grossly, photographed, sectioned and appropriate histologic examinations were carried out. To qualify for inclusion, a case had to have lived at least a year, to have been mentally deficient and to present definite pathology. Because of the controversial question of the effect of syphilis on the germ plasm, all congenital syphilitics were excluded, even though there was no evidence of syphilis of the nervous system. No other clinical variety of mental deficiency was excluded. In this series of 254 cases, 105 or 41.34 per cent had convulsive attacks.

The proportion of mentally deficient in the endogenous and exogenous groups has been

[1] From the Neuropsychiatric Institute, University of Michigan School of Medicine, Ann Arbor, Michigan.

variously estimated. Tredgold's(2) most recent estimate is that 20 per cent are exogenous but according to Gordon, Norman and Berry(3) the figure is only 10 per cent. These studies are from clinical investigation. Our findings, based on patho-anatomical examination, are that 18.5 per cent belong to the exogenous group which closely approaches Tredgold's figures.[2]

There is no definite statement in the literature of the incidence of convulsive disorder in the exogenous group, but there are figures available showing the incidence of convulsive attacks in so-called infantile hemiplegia, the majority of which belongs to this group. Sprattling(4) states that 40 per cent suffer from convulsions; Holt and Howland(5), 25 per cent; Osler(6), 29 per cent and Ford(7), 40 to 50 per cent. These data are based on clinical studies only and the diagnosis must necessarily be considered presumptive. The incidence of convulsive disorder in our material is shown in Table I. The data are broken down to show the incidence of convulsive attacks in various clinical groups. Convulsive attacks were present in 51 per cent of cases. The percentage of these attacks in our patho-anatomically verified and classified material is therefore considerably higher than in the clinical estimates of the above mentioned authors.

TABLE I

INCIDENCE OF CONVULSIVE ATTACKS IN EXOGENOUS MENTAL DEFICIENCY, 51.06 PER CENT

(Postmeningitic)

Clinical classification	Total number	Number with convulsive disorder	Per cent with convulsive disorder
Idiot	26	14	53.85
Imbecile	9	4	44.44
Moron	4	2	50.00
Unclassified	8	4	50.00
Totals	47	24	51.06 (mean)

Chi square test of uniformity in percentage of convulsive disorder in the various clinical groups:

$\chi^2 = 0.244$. D.F. = 3. P = .96 approximately (non-significant).

In the endogenous type of mental deficiency; that is, those with congenital malformations, we could find in the literature only one study dealing with the incidence of convulsive disorder. In Tredgold's(8) study of simple primary amentia (he defines this group as congenital mental defectives, excluding many clinical variants, such as mongolism, microcephaly, oxycephaly and other rare clinical types), there was an average incidence of 37 per cent of convulsive attacks. *This figure, however, is said to increase with the severity of the mental defect.* Tredgold reported fits in 11 per cent of feebleminded, 42 per cent of imbeciles and 56 per cent of idiots. He does not quote the number of cases studied, but in an earlier work gives almost the same figures from a study of 227 cases(9). According to Penrose(10) about one-third of all institutional cases suffer from epilepsy at some time during their lives. These studies are also purely clinical. Our findings are shown in Table II. Convulsive attacks occurred in 81 out of 207 cases; that is, 39.13 per cent, but the table also shows that there is *no difference* in the incidence of convulsive attacks in the various clinical subdivisions of the endogenous type which is contrary to the findings of Tredgold. Our figures also confirm the relative rarity of convulsive disorder in Mongolian idiocy. Only one case in our series of 16 had convulsive attacks.

TABLE II

INCIDENCE OF CONVULSIVE ATTACKS IN ENDOGENOUS MENTAL DEFICIENCY, 39.13 PER CENT

(Malformations)

Clinical classification	Total number	Number with convulsive disorder	Per cent with convulsive disorder
Idiot	92	36	39.13
Imbecile	50	19	38.00
Moron	26	11	42.31
Unclassified	39	15	38.46
Totals	207	81	39.13 (mean)

Chi square test of uniformity in percentage of convulsive disorder in the clinical groups:

$\chi^2 = 0.144$. D.F. = 3. P = .98 approximately (non-significant).

Table III compares the incidence of convulsive disorder in the endogenous and exogenous groups, and it is seen that statistically the difference is not significant. The

[2] In statistical evaluation of our data, we have been fortunate in obtaining the assistance of Dr. C. W. Cotterman of the Department of Human Heredity of the University of Michigan.

percentage is 51 in the exogenous and 39.1 per cent in the endogenous group.

It is interesting to study the hereditary backgrounds of these cases, which show a high incidence of convulsive disorders in families with hereditary tainting.

Penrose(11) investigated 416 patients of whom 100 were epileptic. He found a history of epileptiform attacks in 23 per cent of their relatives. In the families of non-epileptic patients, a similar history was obtained in 10 per cent. He states, "It is possible, however, that a history of epilepsy is more likely to be sought out in a distant relative where the patient is epileptic than where he is not. This source of error is eliminated if we specialize on one particular relationship." He selects the parent-child relationship and finds no correlation between epilepsy in parent and child. In our material we found the incidence of 3.7 per cent of epilepsy in parents of children with convulsive disorder, while no case of epilepsy was reported among the parents of our patients without convulsions. Our findings therefore seem to indicate a relationship between the convulsive condition in parent and child.

TABLE III

FREQUENCY OF CONVULSIVE DISORDER IN ENDOGENOUS AND EXOGENOUS GROUP

Clinical classification	Total number	Number with convulsive disorder	Per cent with convulsive disorder
Endogenous	207	81	39.13
Exogenous	47	24	51.06
Totals	254	105	41.34 (mean)

Chi square test of uniformity of percentage of convulsive disorder:

$\chi^2 = 2.249$. D.F. $= 1$. $P = 0.15$ (non-significant).

COMMENT

The fact that the incidence of convulsive disorder in both groups and all degrees of mental deficiency in our series shows little variation would indicate that *some factor, other than cerebral pathology alone is operative*. We believe that the material presented shows a correlation between the convulsive disorder and the heredity, but the problem is still controversial. Some authors point out that an hereditary tainting cannot be entirely responsible for the occurrence of convulsive states since the disorder is often present in only one of a pair of identical twins. This argument lost much of its weight when Lennox, Gibbs and Gibbs(12), who studied seven sets of such twins, could show that the apparently normal twin had cerebral dysrhythmia. This seems to indicate that dysrhythmia, which presumably betrays a tendency to convulsive disorder, is inherited. A further evidence of the importance of heredity is the high incidence of convulsive attacks among near relatives of epileptics which is about 3 per cent, or six times that of general population (quoted from Penfield(13)).

The great significance of hereditary factors in the etiology of convulsive disorders was emphasized by Waggoner, Lowenberg and Howell(14) in analyzing pathoanatomic changes encountered in the convulsive patients. These authors conclude that neither the type of pathology, be it endogenous or exogenous, nor the severity of the changes demonstrated, offers a satisfactory explanation for the occurrence of convulsions and that it is necessary to assume a latent convulsive diathesis. They conclude that a biologic error manifesting itself in the form of some organic disease in the nervous system in earlier generations may later be reactivated as a convulsive disorder, provided the necessary injury to the nervous system occurs.

In summary, in our material of 254 cases 81.5 per cent belong to the endogenous group and 18.5 per cent to the exogenous. Convulsive attacks occurred in 41.34 per cent of all cases. In the endogenous group 39.13 per cent of the patients had convulsive attacks, in the exogenous 51.06 per cent. There is no important difference in the incidence of convulsive attacks in the various clinical subdivisions. Convulsive attacks do not necessarily occur more frequently in the markedly deteriorated cases.

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THE RÔLE OF THE PREMORBID PERSONALITY IN ARTERIOSCLEROTIC PSYCHOSES[1]

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During its early years as a scientific discipline, psychiatry sought for demonstrable cerebral lesions as the cause of mental disorder. In certain conditions, notably those associated with aging processes, damage to the brain was readily found, and a satisfactory explanation of such psychoses thereby seemed well established. However, recent studies of senile and arteriosclerotic psychoses(1, 2, 3) have indicated that this viewpoint needs revision. In a survey of the arteriosclerotic group(3), numerous inconsistencies between the severity of the mental symptoms and the extent of the cerebral lesions were encountered. Some patients with mild mental alterations showed severe neuropathologic damage and others with pronounced clinical disturbances displayed relatively slight anatomic involvement. Furthermore, it is well known that cerebral vascular changes often occur in elderly persons who fail to develop a mental illness.

Such observations suggest that structural damage to the brain is only one factor in the production of arteriosclerotic disorders. Evidently, different persons vary greatly in their ability to withstand cerebral damage, so that the factor of individual mental vulnerability must be taken into consideration. Thus, anything which lowers a person's mental resistance may conceivably be of significance in the causation of an arteriosclerotic psychosis. This opens up many fields for study, for example, unfavorable hereditary or constitutional tendencies, unfavorable personality characteristics or situational stress. While not excluding other possibilities, the most important of these factors appears to be unstable and inadequate types of personality.

The idea that phenomena of this category can play an etiologic rôle runs counter to traditional conceptions of so-called "organic disorders" and therefore requires more detailed scrutiny. In an earlier study(3), which began primarily as an anatomic one, unusual traits of personality were noted with striking frequency. Twenty-eight patients were examined, and although little or no history was available in several of them, 12 showed outspoken peculiarities of their premorbid mental make-up. Since then, a number of additional examples have been encountered, 3 of which are included in the present paper. A great variety of special features was observed, without any one specific set of characteristics. A composite picture of these traits is displayed in the accompanying table. Their significance is revealed by a scrutiny of the anatomic relationship in the whole arteriosclerotic group.

SPECIAL TRAITS OF PERSONALITY IN 15 CASES OF PSYCHOSES WITH CEREBRAL ARTERIOSCLEROSIS

	No. of cases
Aggressive	5
Emotional instability	5
Restricted interests	5
Seclusive	4
Shiftless	4
Parsimonious	4
Stubborn	2
Anxious	2
Sensitive	2

The observations indicated that extensive cerebral changes could produce a psychosis in anyone, no matter how well balanced the personality may have been. Nevertheless, only a minority of the group exhibited damage of such severity that the quantitative factor could be regarded as all-important. The following case illustrates this point and at the same time demonstrates the fact that persons with a stable make-up are able to withstand a considerable amount of cerebral involvement.

CASE 1.—E. L., a man, aged 69, was admitted to the Foxborough State Hospital on April 16, 1934. The patient was described as a temperate, capable

[1] Read at the ninety-eighth annual meeting of The American Psychiatric Association, Boston, Mass., May 18-21, 1942.

From the Foxborough State Hospital, Foxboro, Mass.

and energetic man. He was sociable, took a great deal of responsibility and was inclined to worry. After graduating from high school he worked in a shoe factory and ultimately became superintendent. Twenty-two years ago he acquired a poultry farm and managed it successfully. For 14 years he had been suffering from diabetes, which was well controlled by dietary measures. He was married and had 5 children, 3 of whom died in infancy. His wife died 4 years ago. Since his work was becoming too strenuous for him, he was gradually liquidating his holdings and putting the business in the hands of his daughter, though he remained in active charge. Seven days before admission he had a sudden apoplectic stroke and thereafter became noisy, confused and restless. He remained in this condition and died 9 days after entering the hospital.

The brain showed a massive fresh hemorrhagic infarct involving the upper half of the left temporal lobe and most of the occipital lobe. Microscopic examination disclosed throughout the brain a considerable number of acellular areas and foci of softening, many of which were obviously older lesions, and an abundance of senile plaques in the cerebral cortex.

Comment.—In this case the brain displayed some focal lesions of long standing, as well as an abundance of senile plaques, which develop, according to present knowledge, slowly over a period of years. Yet during this period the patient had displayed nothing beyond a normal letdown with increasing age. He possessed a well balanced personality and was able to compensate for considerable damage to the brain with complete success, until he was finally overwhelmed by a massive lesion.

Some patients with inadequate traits of personality were unable to withstand damage much less severe than the older lesions noted in this case. One would scarcely expect to observe this relationship in all cases, for extensive damage can occur in such patients just as readily as in more robust persons. Furthermore, the psychosis often lasts for years and during its course many changes may be added to those which originally produced the mental disorder. This is illustrated in the following cases:

CASE 2.—J. P., a single man, aged 69, was admitted to the hospital on March 11, 1941. He was considered odd and a "town character." He was very seclusive and reticent, living by himself. He had no friends and had never shown any interest in women. He was parsimonious and worked regularly as a janitor or caretaker. For 3 years he had expressed ideas of persecution, thinking that someone was trying to break into his room at night or look through the keyhole with a flashlight. He had occasional headaches and dizzy spells. A few months ago, he became more excited in reaction to his ideas, and on admission he showed disorientation, marked impairment of memory and confusion. Death occurred suddenly on March 27, 1941, following a convulsion with paralysis of the right side. The brain showed a very fresh and extensive area of softening in the left frontal lobe, due to an embolus from an acute endocarditic lesion. Elsewhere in the brain only a few widely scattered focal lesions were revealed by microscopic examination.

CASE 3.—E. D., a married woman, aged 78, was admitted to the hospital on February 10, 1923. The patient was described as a shiftless person. She was a poor housekeeper, neglecting her home and her children and going out a great deal at night. About 8 years ago she began to steal articles from clothes-lines and stores. She talked to strange men. She became untidy in her habits and finally began to show a tendency to wander away from home. On admission, the patient exhibited disorientation, rambling speech and a very defective memory. There was some improvement, but during the course of her stay in the hospital she presented considerable fluctuations in the severity of the symptoms and had several major convulsions, two syncopal attacks and frequent spells of dizziness. Death occurred on March 22, 1931, with signs of cardiac failure. Grossly the brain displayed an area of softening two centimeters in diameter in the right occipital lobe. Microscopic examination disclosed a moderate number of focal lesions, chiefly in the white matter.

Comment.—In case 2 there was extensive cerebral involvement, but it was obviously of very recent origin. Since the psychosis was of 3 years' duration, it could be related only to the old lesions, which were small and infrequent. With this ill-balanced personality, the patient was so vulnerable that minimal damage was able to produce an outspoken psychosis. In case 3, the anatomic changes were moderately severe after an illness lasting for 16 years. During this period a number of cerebral vascular attacks undoubtedly occurred and one may therefore assume that the alterations were much milder at the onset of the psychosis.

In several other patients with inadequate personalities, pronounced neuropathologic involvement was observed. It is believed that a good deal of the damage was sustained after the psychosis was well established, as in the foregoing cases, but the exact sequence of events could not be demonstrated with clarity. In a number of instances, however, the anatomic end-picture was unimpressive

quantitatively. The following cases may serve as examples:

CASE 4.—D. B., a man aged 69, was admitted to the hospital on August 15, 1939. The patient had married twice. His first wife, who died in 1916, had 3 children, one of whom is suffering from dementia precox. The second marriage occurred in 1920 and there were 6 children. The patient was described as an erratic and unstable person. He was a lawyer who had been a planter in the south. He indulged in unscrupulous and shady practices and on two occasions narrowly escaped disbarment. He was an "impractical dreamer." He was supported by his second wife and squandered her money on unsound ventures. Following her death in 1933, he made sex advances toward a daughter. At this time psychiatric examination failed to reveal evidence of a psychosis. In 1937, he was sent to a hospital because of hypertensive heart disease. Thereafter he showed periods of confusion and finally impairment of memory. On admission, he displayed spotty defects of memory, mild euphoria, circumstantiality and numerous fabrications. Increasing confusion and severe impairment of memory were noted later and death occurred in March, 1940, with signs of cardiac failure. Grossly the brain showed one small area of softening in the left-parieto-occipital region, and microscopic examination disclosed only a few focal lesions.

CASE 5.—F. B., a single man, aged 73, was admitted to the hospital on May 18, 1937. The patient was a barber and a laborer, who led the life of a vagrant, with numerous jail sentences since 1924. A few weeks before admission, he became confused and restless. At the hospital he showed disorientation, incoherence, marked impairment of memory and incontinence. He remained in this condition until February 6, 1938, when death occurred suddenly from rupture of the left ventricle. Examination of the brain disclosed only a few widely scattered microscopic focal lesions.

Comment.—The minimal damage in the foregoing cases provides further proof that persons with an ill-balanced make-up are highly vulnerable mentally. The fact is, case 4 was at first excluded from the arteriosclerotic group because of the paucity of neuropathologic alterations, though a careful review failed to uncover anything other than a cerebral vascular process to explain the disorder. Since then, it has become evident that the anatomic involvement in arteriosclerotic psychoses may be just one factor, and possibly not the most important one, in certain instances. The whole life history of these patients reveals an inadequacy of adjustment with increasing difficulties pointing toward ultimate mental breakdown. The cerebral damage acted merely as "the last straw" in persons already heavily burdened.

In a few cases the mental symptoms themselves suggested that personality factors played a prominent rôle in the psychosis. This was noted with special clarity in two cases, of which the following example may be cited.

CASE 6.—A. B., a man aged 60, was admitted to the hospital on June 3, 1933. His mother died of a "shock" in the late fifties and one sibling had high blood pressure. The patient was married and had two children, who were well. Although he was a steady and conscientious worker in a shoe factory, he "never got anywhere." He was devoted to his family. His salary was only 12 to 20 dollars a week, but he was thrifty and bought a home of his own. He was quiet, retiring and sensitive. He attended church regularly, drank Saturday nights, usually at a local men's club, but spent most of his time at home with his family. Occasionally he went to movies or on outings with them. For the past few years he had only part time work. In April, 1932, he began to worry over a cut in pay, and he became unduly disturbed at criticism of his work by his employer. He developed a small inguinal hernia. He worried constantly about this, consulting a number of physicians. He thought that he was "growing old and slipping" and feared that he would be discharged. He lost weight, often refusing to eat his meals. In July, 1932, a routine medical check-up at the factory revealed a high blood pressure. He was advised to rest for a few weeks and then to exercise moderately. At about this time he had a syncopal attack of several minutes' duration. He worried about his bowels and about his inability to work. He became tense and restless, talking constantly of his family's misfortunes. He had rare spells of dizziness and occasional headaches. Two months ago he attempted suicide by drinking iodine. He talked of doing away with the whole family and finally begged to be sent to a hospital where he could do no harm.

On admission the patient was well oriented, but greatly depressed and agitated. He complained of pain and constipation, and asserted that he had a cancer and that his stomach was "all gone." He said, "I have been praying to God all the time so He would save my soul." He believed his condition was hopeless because of his sins. There was cardiac enlargement and the blood pressure was 240 systolic and 106 diastolic. His mental condition was essentially unchanged for two years. In 1935, he became partially disoriented. In June, 1936, he was confused and untidy. His memory was impaired and his speech was indistinct and incoherent. He remained depressed and feared that he was in Hell. On September 16, 1936, he developed a left hemiparesis. He grew gradually weaker and death occurred on November 26, 1936.

Grossly the brain showed one small area of softening in the right frontal region, one fresh infarct of considerable size in the right putamen and pal-

lidum and several small foci elsewhere in the basal ganglia. On microscopic examination, only a few small focal lesions were found in the cerebral cortex but the basal ganglia and brain stem exhibited a number of old and recent areas of softening.

Comment.—In this case the clinical picture bore a striking resemblance to that of involutional melancholia, apart from the intellectual disturbances in the final stages of the illness. Malamud and his co-workers(4) have shown that involutional psychoses develop in persons of a rigid make-up who are poorly prepared to meet situations of stress apt to arise at a time of life when the sense of future security is most shaky. The psychosis appears as a logical culmination of such factors. Their formulation describes the set of circumstances in the present case so closely that one may well regard the arteriosclerotic disorder as playing an accessory part in starting the psychosis. In fact, during the first 3 years the cerebral vascular disease was not severe enough to produce any of the mental symptoms customarily associated with structural damage to the brain. It may have caused a slight lowering of efficiency, which in itself was scarcely sufficient to lead to mental illness; but in this particular setting it acted as a psychologic handicap, contributing to the strong sense of failure stressed by Malamud(4) as a characteristic feature of this type of reaction. Apparently, psychologic factors played a major rôle and anatomic factors a minor one in the origin of the psychosis.

General Discussion

Arteriosclerotic disorders are associated with cerebral alterations. This does not mean that other factors of a more personal nature play no part in the development of the psychosis. The brain, like other organs, possesses reserve powers and within certain limits can compensate for damage to its structure. There has been a tendency to forget this fact, though one should be reminded of it by the surprising lack of serious or even minor untoward mental effects following the bold surgical procedures and shock therapies of recent years. The point of interest for the present discussion is that approximately the same amount of damage which produces an arteriosclerotic psychosis in one case may not do so in another.

Williams and his co-workers(5) have suggested that personality and situational factors are relatively insignificant in arteriosclerotic psychoses. It is true that situations of stress are much less common than in senile psychoses(1, 2). Yet they occur occasionally, as in case 6, and may then play a prominent part. Furthermore, a considerable number of the patients possess peculiar or inadequate traits of personality, and a scrutiny of the anatomic relationships indicates that such patients break down mentally in the face of damage which could readily be overcome by persons of a more robust type. In this sense the personality may be a determining factor in the development of an arteriosclerotic psychosis.

As indicated in the table already presented, no specific set of characteristics was noted in the group. Seclusiveness, odd and eccentric traits, restricted interests, aggressiveness, violent temper and shiftlessness were among the more commonly encountered features. The observations suggest that persons who are in any way handicapped psychologically are apt to show a high degree of vulnerability to arteriosclerotic psychoses.

According to Weiss(6), in cardiovascular lesions occurring in arterial hypertension the psychic factor may be even more important than the physical factor in producing incapacity. The present material does not lend itself to demonstration of specific psychic influences that might precipitate cerebral vascular damage. Nor does it throw light on Alexander's(7) view that hypertension may be associated with the inhibited and at the same time intensely hostile and aggressive types of personality. A few patients showed such traits. One might speculate that psychic influences in these patients led to hypertension, which in turn led to the development of cerebral arteriosclerosis. However, cerebral arteriosclerosis is probably based on a variety of different processes, and it is not restricted to any one type of personality.

Cerebral arteriosclerosis itself is an impersonal process and if it is severe enough it can produce a mental breakdown in anyone. The anatomic factor is all-important in

some cases, but in others responsibility for the psychosis is shared by factors of personality. How much of one and how much of the other component is involved is a problem to be determined in each case. It is realized that this whole problem requires extensive additional study. The practical importance of the arteriosclerotic group, which represents a growing burden to psychiatric hospitals, needs no emphasis. Hereditary and constitutional tendencies deserve attention. Elderly persons who remain normal mentally should be scrutinized from anatomic, social and psychologic angles, side by side with patients suffering from arteriosclerotic psychoses. Such a study may enable one to define the factors which act as psychologic handicaps more exactly and thereby pave the way for measures which will contribute toward the prevention of some cases of arteriosclerotic mental disease.

Summary

A study of the clinical-anatomic relationships in arteriosclerotic psychoses reveals numerous inconsistencies, which indicate that different persons vary greatly in their ability to withstand cerebral damage.

The observations suggest that individuals who are in any way handicapped psychologically are highly vulnerable to arteriosclerotic psychoses. A considerable number of patients displayed inadequate and unstable personalities; less frequently, situational stress was noted. Such patients break down mentally in the face of damage which persons of a stable make-up could successfully withstand.

Extensive cerebral changes may produce a psychosis in anyone, but the anatomic factor can be regarded as all-important in only a minority of the group. In the other cases, responsibility for the psychosis is shared by factors of personality.

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A STUDY OF CASUALTIES OCCURRING IN INSTITUTIONS UNDER THE SUPERVISION OF THE MASSACHUSETTS DEPARTMENT OF MENTAL HEALTH[1]

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In institutions which care for the insane the occurrence of casualties in the resident population presents a major problem. In the first place it is difficult oftentimes to discover that an insane person is injured because many are uncommunicative. Consequently, unless the casualty has been witnessed by a responsible person, the detection of injury is dependent upon recognition by trained ward personnel who are familiar with their patients. Because of the present-day man power shortage and the frequent turnover of help it appears probable that the efficacy of this primary protective mechanism is becoming decreased.

After it has been discovered that a patient is injured and a medical diagnosis has been made, further difficulties are likely to arise incident to treatment. Many insane patients are resistive and uncooperative. Others, because of extreme age, weakness or debility, present problems in nursing and routine bed care. Unquestionably, in the mentally ill, any given injury is potentially more dangerous and the treatment more difficult than would be the case with a similar injury occurring in a mentally normal person.

Of even greater importance than the diagnosis and treatment of injuries in mental patients is the prevention of their occurrence. There are several reasons why such an undertaking is difficult. To mention only a few, there are such uncontrollable factors as weakness and infirmity, particularly prominent in older patients whose numbers are disproportionately high in the resident hospital populations; the hyperactive, impulsive and combative behavior shown by many mental patients; the confined and crowded environment of the average mental institution; and the present depleted employee personnel.

[1] From the Massachusetts Department of Mental Health, 100 Nashua St., Boston, Mass.

It has been a policy of the Massachusetts Department of Mental Health to require a written report of all serious casualties[2] which occur in the various mental institutions coming under its jurisdiction. There are many obvious advantages in the central collection of data referring to casualties occurring in many individual institutions. One of these is that by the pooling of data it is possible for one hospital to compare its records with another. Another is that by means of a central office information of value obtained from the experiences of one institution may be easily transmitted to all others.

Regulation No. 5 of the Massachusetts Department of Mental Health describes the circumstances under which a casualty report shall be made:

> The following injuries occurring in state or private licensed institutions shall be reported to the Department at once, using D. M. H. Form No. 36: 1. Fractures. 2. Dislocations. 3. Serious lacerated or incised wounds. 4. Permanently disfiguring injuries of any kind. 5. Serious internal injuries. 6. Serious burns and scalds, frost bites, etc. 7. Serious self-inflicted or accidental injuries, unless of minor importance. 8. Swallowing of poisons and other dangerous foreign substances. 9. Unsuccessful attempts at suicide, with serious results. 10. Injuries of illness from exposure, of serious nature. 11. Serious injuries to patients in which an employee is involved.

Manner of Collecting Data

Pertinent data from each casualty report referred by the several institutions were transferred to a code card for filing. By means of the Powers Punch Card Sorting

[2] It should be emphasized that only serious or potentially serious casualties are required to be reported. Thus, in a survey by Bonner and Taylor (1) but 413 or 8.7 per cent of a total number of 4,755 casualties occurring in a 2-year period in a single state institution were considered serious. Presumably, the same ratio holds true in our series compiled from many institutions.

Machine it then became possible to obtain a variety of statistical analyses. Those results which appeared to be of significance were then reanalyzed individually. The final results constitute the body of this paper.

Average Casualty Rate in Combined Hospital Group

From the combined state schools, and state, veteran and private institutions there were 890 casualties which were reported to the Department of Mental Health during 1942. Since the daily average population was 32,023 [3] it will be seen that the yearly casualty rate was 27.9/1,000.

Incidence of Casualties in Relation to Sex

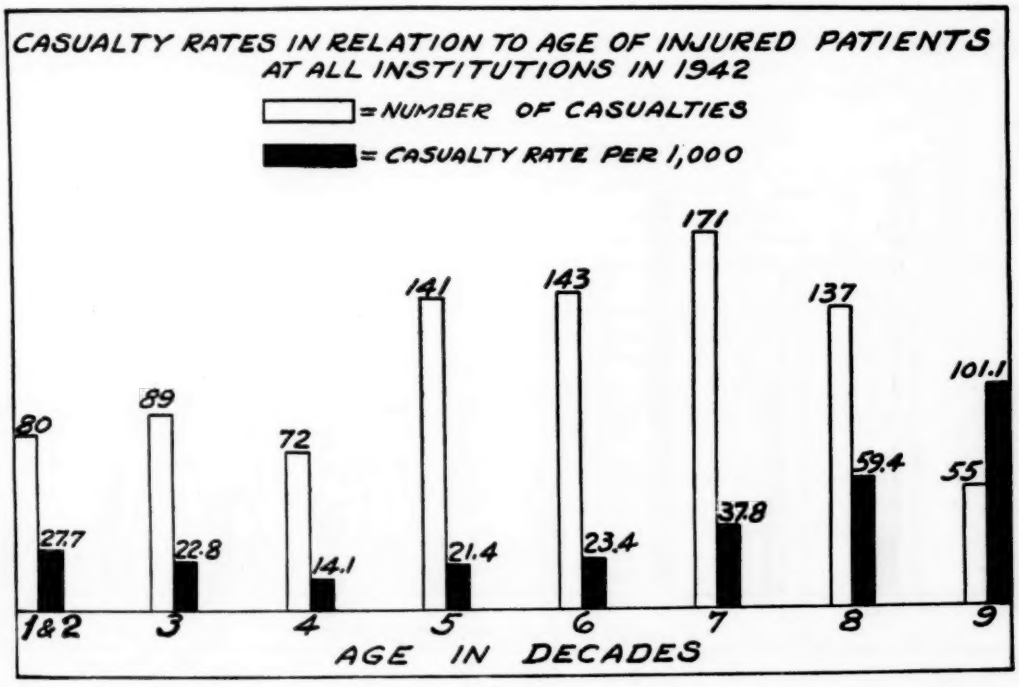
52.4 per cent of the 890 casualties occurred in males and 47.6 per cent in females. This distribution was almost exactly similar to the distribution of the sexes in the combined hospital population.

[3] The daily average population of the state hospitals and schools was 29,214; that of the veterans hospitals was 2,216 and of the private institutions 593.

Incidence of Casualties in Relation to Age

Five hundred ninety-two or 66.5 per cent of the 890 casualties occurred in patients whose ages were in the 5th to 8th decades inclusive (Graph 1). The largest number in a single decade was 171 (7th decade).

The lowest casualty rate occurred in patients varying from 30-39 years (14.1/1,000). That in the 3rd, 5th and 6th decades was approximately double that of the 4th. The 7th decade showed a significant rise to 37.8/1,000 while figures for the 8th decade were still greater (59.4/1,000). Individuals in the 9th decade of life exhibited by far the greatest predilection for injury with the amazing casualty incidence of 101.1/1,000. Thus it is apparent that 1 of every 10 persons from 80 to 89 years old in the mental institutions became the victim of a casualty within the year. Moreover, the likelihood for individuals of this advanced age to sustain injury was approximately 7 times greater than for those in the 4th decade. Possible objections to this conclusion on the basis of a dissimilarity in the number of patients of each group does not

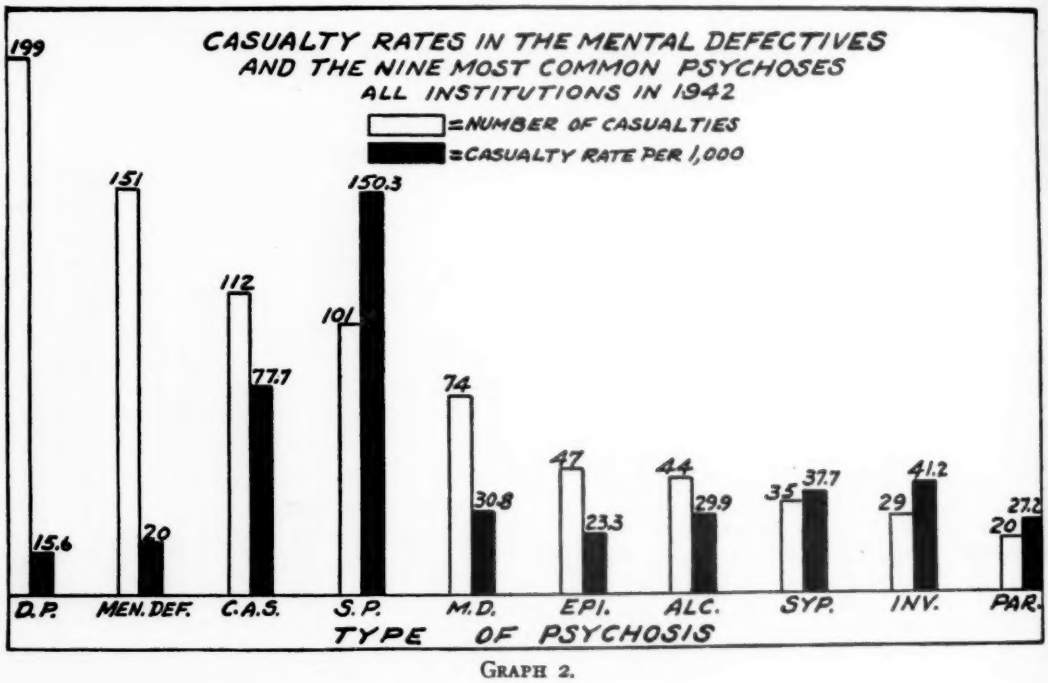


Graph 1.

seem warranted. Patients comprising the 9th decade group totaled 550, an adequate number to warrant including this group in the survey.

Casualty Rate Among the 9 Most Common Psychoses and the Mental Defectives

Graph 2 shows the casualty rate in the 9 most commonly encountered mental disorders and in the mental defectives. Although the greatest number of casualties (199) occurred in dementia præcox, in view of the large number of patients suffering from this condition, the casualty rate actually was lowest of all (15.6/1,000). In contrast, the psychoses due to senility and to cerebral arteriosclerosis had by far the highest casualty rates with 150.3/1,000 and 77.7/1,000 respectively. This result was expected since it has already been noted that casualties took place more frequently in older people. Nevertheless, it was surprising to find such a striking difference. For example, a patient suffering from dementia præcox was 10 times and 15 times less likely to sustain injury than one with senile psychosis and cerebral arteriosclerosis respectively. In comparison with dementia præcox it was found that the chance for injury was approximately 2½ times greater in the involutional psychoses and in central nervous system syphilis, whereas in the manic-depressive psychoses, alcoholic psychoses and paranoia it was approximately double. The casualty rate in epilepsy and mental deficiency approximated that of dementia præcox. The low rate in epilepsy was rather surprising in view of the potential hazard incident to epileptic convulsions.



Graph 2.

Intrinsic Conditions Which Predispose to Casualty

Intrinsic conditions which predispose to casualty are shown in Table 1. In 537 or 60.4 per cent of the 890 patients no intrinsic factor could be determined. In 105 or 11.8 per cent senility with associated ataxia, weakness, bone brittleness, etc., was considered responsible. In another 140 or 15.7 per cent of the cases the casualty appeared to have been incident to the psychotic behavior of the patient, viz.: impulsiveness, combativeness, self-mutilation, suicidal tendency, lack of judgment and the like. Other patients were possibly predisposed to injury

because of some somatic or organic condition such as hemiplegia or hypertension. The mentally deficient were frequently clumsy, ataxic or partially paralysed and thus predisposed to falls when walking or playing.

TABLE 1

INTRINSIC CONDITIONS WHICH PREDISPOSE TO CASUALTY

	No.
None	537
Senility	105
Impulsive behavior	83
Suicidal tendency	38
Epilepsy (Convulsions)	29
Mental deficiency	29
Somatic disease	24
Other organic nervous disease	17
Self-mutilation	13
Exogenous poisons	9
Other psychotic acts	6
Total	890

MANNER BY WHICH CASUALTIES WERE SUSTAINED

Table 2 shows how the 890 casualties were sustained. Five major causes were discovered. Four hundred twenty-four or 47.6 per cent resulted from unavoidable or natural causes. Of these 279 were caused by slips, stumbles, etc., and occurred usually in the aged and infirm. An additional 35 cases were caused by falls from beds and chairs.

TABLE 2

MANNER OF SUSTAINING CASUALTIES

	M	F	T
Natural causes:			
Slipped and fell	103	176	279
Fell out of bed or chair	13	22	35
Extremity, etc., jammed or crushed	25	10	35
Natural causes	19	7	26
Accidentally injured by another patient	13	7	20
Other unclassified acts of patient	2	2	4
Accidentally injured by attendant	3	1	4
Accidentally struck by motor vehicle	3	1	4
Burnt from hot water	2	0	2
Total			424
Unknown			79

TABLE 2—CONTINUED

MANNER OF SUSTAINING CASUALTIES

	M	F	T
Casualties incident to altercations:			
Serious assault by patient	69	61	130
Altercation with patient	40	12	52
Struck by patient or otherwise injured	24	10	34
Struck another patient	10	1	11
Altercation with attendant	2	1	3
Struck attendant	2	0	2
Altercation previous to admission	1	0	1
Total			238

MANNER OF SUSTAINING CASUALTIES

	M	F	T
Casualty incident to psychosis of patient:			
Pushed self through glass, against wall, etc	20	10	30
Cut self with glass, knife or other sharp instruments	17	9	26
Other unclassified acts of the psychotic patient (subject himself)	7	6	13
Resist. treatment or restraint	5	6	11
Attempt at self-strangulation	3	5	8
Attempting to escape	4	3	7
Ingested poisons	2	4	6
Pushed, jumped or fell from window	0	3	3
Inhaling of gas	1	1	2
Ingested foreign bodies	2	0	2
Attempt at drowning	1	0	1
Self-inflicted gun-shot wound	1	1	2
Total			111

MANNER OF SUSTAINING CASUALTIES

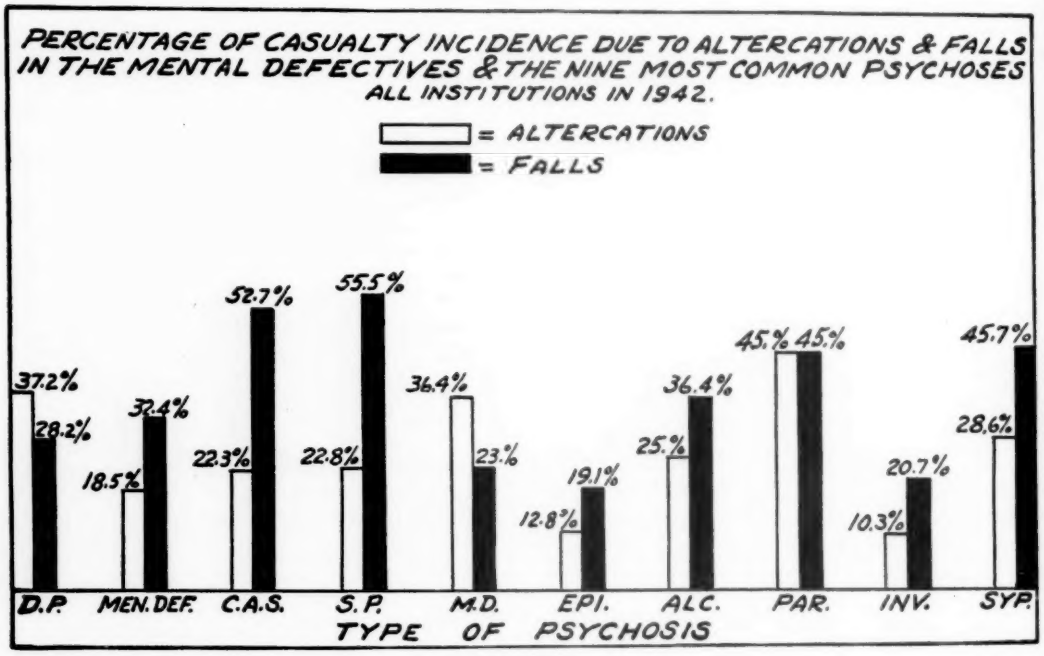
	M	F	T
Casualties incident to epilepsy and organic CNS disease:			
Fell to floor during convulsion or seizure	15	14	29
Other unclassified acts due to organic disease	2	1	3
Total			32
Casualties incident to treatment:	M	F	T
Electric shock treatment	2	2	4
Metrazol shock treatment	0	1	1
During tube feeding	0	1	1
Total			6

The next most common cause for injury was altercation which occurred in 238, or 26.7 per cent, of the 890 cases. In 164 it was recorded that the injuries were incident

to assaults by other patients. Although in a small number it was clear that the recipient of the injury was an innocent victim of an unprovoked assault, in 74 of the 238 cases it was established beyond reasonable doubt that the injured person began the argument.

Of the injuries due to the psychotic behavior of the patient 111 or 12.5 per cent resulted from various forms of suicidal attempts, impulsive behavior, self-mutilation and the like. A smaller group of injuries (32) resulted from falls during convulsive seizures, usually in epileptics. Six accidents resulted from treatments, 4 were from electric shock and 1 from metrazol.

falls were responsible for 52.7 per cent and 55.5 per cent respectively of all casualties sustained by these two groups. This high incidence might easily be explained by the physical weakness and infirmity of these patients. In younger patients falls were either less frequent or injuries did not result so often, possibly because their physical condition was better. Thus in the mental deficiency group the incidence was only 32.4 per cent and for those in the dementia præcox classification it was 28.2 per cent.



GRAPH 3.

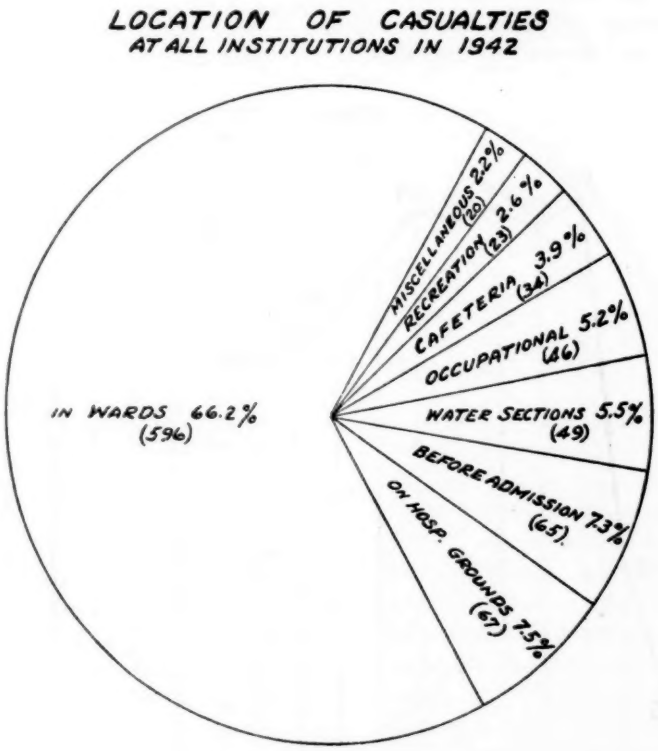
RELATIVE FREQUENCY OF FALLS AND ALTERCATIONS AS CAUSE FOR CASUALTIES

Graph 3 shows the relative frequency with which falls and altercations, the two most common causes for injuries, occurred among the 9 most commonly encountered mental disorders and the mental defectives. In the senile and arteriosclerotic psychoses

In a consideration of altercation-produced injuries it might be expected that the highest percentage would occur in patients who were combative, impulsive, hallucinated or deluded. Such mental abnormalities are common to dementia præcox and manic-depressive psychosis and the fact that these two groups led in casualties produced in this manner was to be expected. Thus 37.2 per cent of all casualties in dementia præcox were incident to altercations and the rate in the manic-depressives was nearly as high. In contrast, the incidence in the psychoses or senility and arteriosclerosis was considerably lower.

Location Where Casualties Occurred

Graph 4 shows where the accident took place. Sixty-five or 7.3 per cent of the total 890 casualties occurred before the patient was admitted to the hospital. Five hundred ninety-six or 66.2 per cent were sustained on the ward, while 49 or 5.5 per cent occurred in the water section. Other casualties occurred in fewer numbers while patients were at work in the cafeteria, on the hospital grounds or during recreation.



Graph 4.

Incidence of Casualties in Relation to Time of Day

Graph 5 indicates the number of casualties during each of the twenty four hours of the day. As was to be expected, most of the casualties occurred while patients were awake. Three hundred twenty three or 36.3 per cent happened from 6:00 a. m. to 12:00 noon and 272 or 30.6 per cent during the next 6-hour period. In the 12-hour period from 6:00 p. m. to 6:00 a. m. 209 occurred, 152 of which were before midnight. It would appear that the waking hours immediately after rising presented the greatest casualty hazard. It might be postulated that the energy that accumulated through rest during the night resulting in early morning activity, manifested itself by the highest number of casualties during the entire 24-hour period of the day. Then, after this energy was dissipated, there was a significant decrease in the number of casualties which continued to drop after the noon meal, to be followed by another rise at 3:00 p. m. Subsequently, there was a gradual falling off until finally the base level was reached while the patients were sleeping.

Preventability of Casualties

In a small percentage of cases it was possible to state that casualties might have been prevented. Thus injuries were sustained as the result of falls on slippery or wet floors, icy walks, etc. Other accidents occurred while patients were working, but in no instance could it be said definitely that these were caused directly by an industrial hazard.

Still others were due to an error in judgment on the part of the nursing or attendant staff.

In this connection the question of insufficient and untrained help was considered. It was surprising to find, in spite of the increasing employee shortage, that the number of reported casualties during 1942 was approximately 10 per cent lower than for the preceding four years.

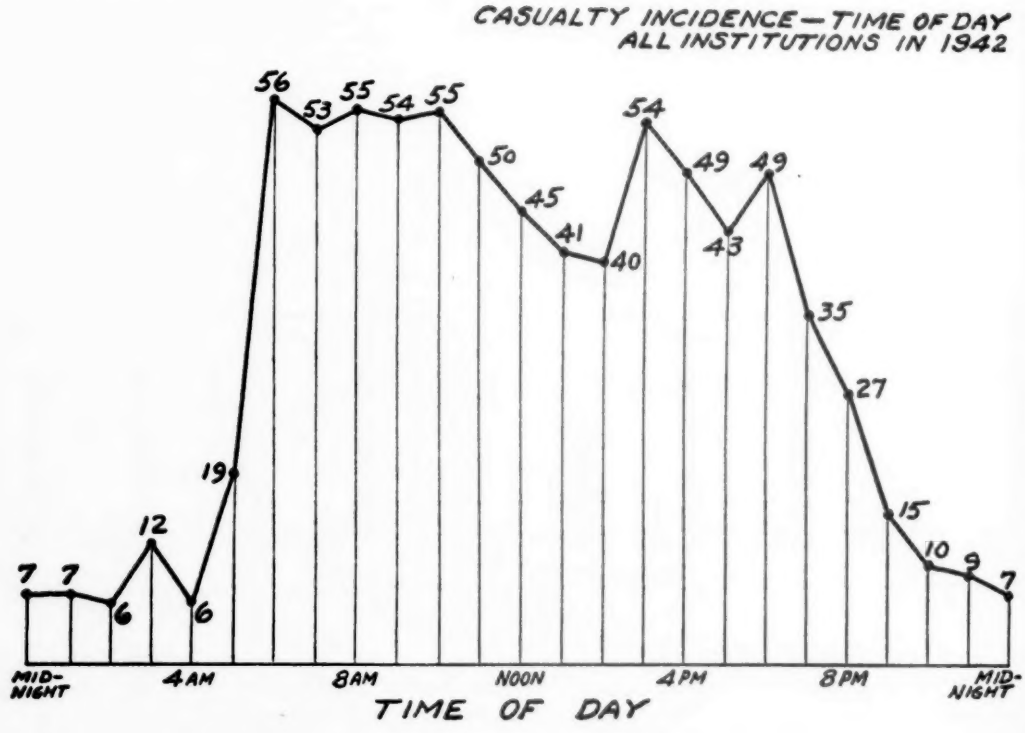
Type of Injuries Sustained

In 750 or 84.3 per cent of the total 890 casualties the injuries sustained were of a nature classifiable as "severe" or "serious."

TABLE 3

Nature of Injury

	Male	Female	Total
Fractures	343	379	722
Lacerations	61	35	96
Contusions and abrasions	20	17	37
Dislocations	12	12	24
Burns	7	3	10
Traumatic amputation	3	1	4
Frostbite	3	1	4
Concussion	3	1	4
Ruptured viscus	3	0	3
Swallowed foreign bodies	1	2	3
Gunshot	2	0	2
Others	2	3	5
Total	460	454	914



Graph 5.

In another 114 the injuries were minor, whereas in the remaining 14 no injury was recorded. The latter group consisted of unsuccessful suicidal attempts.

Nine hundred fourteen separate injuries were incurred in the 890 casualties. As shown in Table 3, 722 or 79.0 per cent consisted of fractures and 24 or 2.6 per cent of dislocations. Other commonly occurring injuries were lacerations (96 or 10.5 per cent) and contusions and abrasions (37 or 4.1 per cent). Miscellaneous and infrequent injuries included burns, frost bite, traumatic amputation, ruptured viscus, the swallowing of foreign bodies, gunshot wounds and concussion.

Type of Fractures Sustained

The location of the 722 fractures is shown in Table 4. Five hundred thirty-two or

72.9 per cent involved the extremities while 102 were located in the bones of the face, chiefly the nose (90). In 37 patients rib fractures were found and in another 23 fractures of the clavicle or scapula. Fractures of the spine, skull and pelvis were encountered with less frequency, the incidence was 11, 9 and 7 respectively.

TABLE 4

LOCATION OF 722 FRACTURES

Location	No.
Extremities	532
Femur	168
Tibia and fibula	56
Bones of feet and ankles	46
Humerus	62
Radius and ulna	113
Bones of wrist and hand	87
Face	102
Ribs	37
Shoulder	23
Spine	11
Skull	9
Pelvis	7
Sternum	1
Total	722

FRACTURE OF THE FEMUR

Fractures of the femur, invariably of the hip, occurred in 168 cases. Sixty or 35.7 per cent terminated fatally. An observation of interest was that the incidence in females (119) was more than double that in males (49). One hundred eight of the fractures occurred as the result of falls, most of which were due to muscular weakness and debility.

An arrangement by decades of the number of femur fractures and of those ending in death is given in Table 5. No fractures occurred before the 4th decade, and no deaths before the 5th. Up to and including the 8th decade there then was a progressive increase in both the number of fractures and the mortality rate. The grestest number of fractures (58) and of resultant deaths (29) occurred in the 8th decade. While there was a decrease in the number of fractures to 31 in the 9th decade, the mortality rate was greatest (67.7 per cent) since 21 deaths occurred.

It is also interesting to observe in relation to the total casualties that the incidence of femur fracture became proportionately higher with each succeeding age group. The highest rate was in the 9th decade (31 or 56.4 per cent of the total 55 casualties). Thus it will be seen that fractures of the femur were typical of old age. The chances for survival decreased with the increasing age of the victim.

TABLE 5

INCIDENCE AND MORTALITY OF FEMUR FRACTURES BY DECADE

Decade	Total casualties per decade	No. of femur fractures	No. of deaths incident to femur fractures
1	8	3	0
2	72	0	0
3	89	0	0
4	72	4	0
5	141	9	1
6	143	17	2
7	171	45	7
8	137	58	29
9	55	31	21
		167	60

FRACTURE OF HANDS, FINGERS AND NOSE

Whereas the incidence of hip fractures reflected the age and debility of one group of the hospital population, fractures of the fingers and hands occurring in 70 cases reflected the irritability and combativeness of another group. Almost all of these fractures were incident to altercation and were found in younger overactive and physically vigorous patients. As would be expected, the incidence was highest in the dementia præcox, paranoia and manic-depressive psychoses. Fractures of the nose occurred in 90 cases. In general these casualties happened among the younger and more active group but not so exclusively as was the case with finger and hand fractures.

ANALYSIS OF INJURIES OTHER THAN FRACTURES

In view of their relative infrequency there were no significant observations to be obtained from a study of injuries, other than fractures. Lacerations, contusions and abrasions were incurred from a variety of causes. Many were incident to altercations while others were the result of falls, etc.

Injuries Sustained Prior to Admission

There were 65 cases reported because of injuries sustained prior to admission. The casualties were due to falls in 18 cases, 13 from attempts at suicide, while in 19 instances the origin was unknown. The remaining 15 casualties were incident to a variety of causes. Apart from those sustained by attempts at suicide the injuries resulting from the 65 casualties were chiefly fractures (37). Of these, 8 involved the femur.

Suicides

Thirteen suicidal acts were committed prior to admission, 3 of which ended fatally in the hospital. Six were due to poisons (carbon monoxide—3, iodine—1, ammonia—1, mixture of iodine and alcohol—1). Suicide was attempted in 3 instances by jumping from a height, in 2 by gunshot and in 1 each by a self-inflicted stab wound and self-strangulation. One of the 3 carbon monoxide victims and both of the gunshot cases died.

There were 23 unsuccessful suicidal attempts in the hospitals.[4] By mental diagnosis there were 6 cases of manic-depressive psychosis, 5 of dementia præcox and 4 of alcoholic psychosis. The remaining 8 cases were of miscellaneous diagnoses. The manner of the suicidal attempts was by hanging in 7 cases, stab and incised wounds in 5, ramming head against objects in 4, jumping downstairs in 2, drowning in 2, poisoning in 2 and suffocation in 1. The injuries sustained were not serious except in 1 instance in which craniocerebral injuries were sustained. The attempts at poisoning were by swallowing perfume and a mixture of zinc oxide and castor oil used as a skin dressing.

Discussion

It has been pointed out that casualties in the mentally ill occur with greatest frequency among older people, a finding similar to that in the general population(2). What measures might be instituted to prevent accidents in older people? In some hospitals a training course for attendants has been established in which emphasis has been placed upon the causes and prevention of casualties. It is agreed that an adequate complement of well trained ward personnel, familiar with the specialized problem of caring for the aged, is a highly desirable arrangement. In state institutions an adequate patient: attendant ratio has never existed and at this particular time, due to the man-power situation, it is obviously out of the question to expect a satisfactory adjustment.

Certain changes or alterations in the ward appointments may prevent or diminish falls, the greatest single cause for accidents. It has been suggested that floors of cork composition would be less hazardous than waxed floors, polished wood or slippery linoleum, and in the water sections corrugated rubber mats might be of similar benefit. One superintendent, while constructing ramps in a tunnel, caused an abrasive substance to be mixed with the top layer of the concrete floor. Another, feeling that ramps were safer than stairs, has caused these to be built into three new buildings housing patients.

In some institutions, low beds have been provided for epileptics. In the case of senile patients, who are likely to fall out of bed, crib beds and special chairs safeguard against this possibility. All of these precautions should tend to decrease the number of casualties, particularly in the older age ranges.

Various measures have been suggested by individuals experienced in institutional care of the mentally ill in an attempt to reduce the number of altercations among the younger and more active patients.

Many of these ideas are being carried out to a greater or less degree in many institutions at the present time. For instance, it has been observed that patients, who can be persuaded to participate in ward housekeeping, derive satisfaction, become less irritable, less antagonistic and usually less combative. In other cases, the energies of the patients are directed to more creative pursuits by instruction in sewing, craftsman-

[4] Fourteen deaths from suicide occurred during the year (hanging 8, drowning 4, manual strangulation 1, stabbing 1). In all these instances death was an immediate result of the suicidal attempt. Casualty reports are not required in those cases having an immediately fatal outcome.

ship, tailoring, carpentry, cabinet making, book repairing and other manual occupations.

Many hospitals have established walking parties about the hospital grounds, and efforts have been made to interest even the most preoccupied patients in some sort of recreation.

It has been pointed out previously that the majority of casualties have occurred while patients were confined to the wards. To overcome this situation it would appear logical that an extension of the open air and exercise program be instituted in as much as those hospitals which now use these measures on a large scale report a decreased incidence of casualties.

Lists of impulsive, combative and potentially suicidal patients might be posted in the nurse's office on each ward so that all attendants, even though newly assigned to duty, can concentrate particular attention on this group. Also, when patients have developed an habitual dislike for each other, it is highly desirable that segregation be used and, if possible, they should be transferred to different wards.

It is also obvious that objects which might be used as weapons should be carefully guarded and eliminated when possible. For example, Bonner and Taylor(1) mention the danger of a shoe if held in the hand as a striking weapon and suggest that soft shoes with rubber soles and heels be substituted. Miscellaneous implements used in daily housekeeping, such as mops, brooms, brushes, etc., should be kept locked in closets when not in use. They should be in good repair so that handles can not become separated. Chairs should be made of heavy enough construction so that they can not be wielded easily. Better still, they should be made stationary or if this is not possible benches or davenports should be substituted. Glass reinforced with wire, so as to prevent complete shattering, is advisable for use on the more disturbed wards. In this connection it is understood that a plastic substitute for glass is now being manufactured. It does not splinter upon being struck and shatters into dust. After the present world conflict it may be possible to utilize this and many other new products in our mental institutions.

Summary

A statistical analysis was made of 890 casualties which occurred in mental institutions coming under the jurisdiction of the Department of Mental Health during 1942. Significant observations included:

1. The casualty rate was highest among the aged.

2. The casualty rate was highest in the senile psychoses and lowest in dementia præcox. The incidence was 10 times greater in the senile group than in dementia præcox.

3. The most common causes for injury were slips, stumbles, etc., and these predominated in older patients. The next commonest cause was altercations which occurred in the younger age groups.

4. Two-thirds of the accidents occurred on the wards.

5. The peak of the casualty incidence occurred shortly after rising and appeared related to the routine of rising and preparing for the new day.

6. Resulting from the 890 casualties there were 903 separate injuries recorded, 722 of which were fractures, with 532 involving the extremities, 168 of which were located in the femur. The mortality rate of the latter was in direct proportion to the age of the victim.

Suggested methods for decreasing or preventing casualties were discussed.

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PSYCHOANALYTIC PERSPECTIVES

EDWARD A. STRECKER, M. D., PHILADELPHIA, PA.

I take it that your purpose in inviting me to speak at this Section was not that I should recapitulate the many significant contributions of psychoanalysis to the theory and practice of psychiatry and medicine. However, it would be ungracious to withhold at least a brief gesture of appreciation.

Psychoanalysis made soundings below the level of conscious experience and brought to the surface much material which after being examined proved to be of great clinical value.

It should be memorialized that psychoanalysis led the assault against the citadel of a self-sufficient objective psychiatry. Wisely, it insisted that there must be inquiry into the subjective aspects of both the patient and his symptoms.

Psychoanalysis particularly assailed the puritanism of objective psychiatry. Before the advent of psychoanalysis, the discussion of sex, its developmental stages; its incompletions; its deviations and in general, its importance as a dynamic factor in the production of nervous and mental disorders, if not exactly taboo, nevertheless was much more honored in the breach than in the observance. Psychoanalysis focussed upon sex and all its ramifications a penetrating and revealing battery of current and phylogenetic searchlights. Perhaps some of the shadows seen in the focus were somewhat overemphasized and distorted by the interpretation. Nevertheless, it was obviously necessary that the dark and hidden places of sex be illuminated.

Psychoanalysis acted as a much needed antidote to the psychopathological toxicity resulting from the taciturnity that conservative psychiatrists imposed upon their patients. In pre-psychoanalytic days the neurotic patient was not much encouraged to talk. In general he was required to be silent and listen to the psychiatrist. Psychoanalysis loosed his tongue. Not only did it encourage the patient to talk but he was given carte blanche to say anything he wished to say, and indeed, anything he did not wish to say. Antipsychoanalysts insist that patients are encouraged to talk entirely too much; but there is little doubt that the results have been good.

All in all, there is authentic testimony to the value of psychoanalysis in the fact that every day in their practice psychiatrists employ *some* of its concepts in understanding dynamics and in effective therapy.

However, this is not intended to be merely a paean of praise of psychoanalysis, however justly earned. My first criticism is suggested by the statement just made, that all psychiatrists use *some* of the concepts of psychoanalysis in daily practice. I am inclined to believe that many psychoanalysts rather frown upon such partial endorsements and utilizations and tend to belittle them. They should not. The most fruitful traditions of psychiatry are eclectic and democratic. Within the limits of an adequate psychiatric background, it makes for ultimate progress, for competent psychiatrists to pick and choose; to accept or discard; to employ or decline to employ any part of any doctrine. Actually, I am inclined to think that psychoanalysts are at their best when from the vantage point of their psychoanalytical indoctrination they think as clinical psychiatrists or psychosomaticists or even internists or pediatricians; conversely, they are distinctly not at their best when they are thinking and functioning dogmatically.

Semantics is teaching us the value and the danger of the spoken and the written word. Words are symbols. Like all symbols, word symbols serve an important and useful function. The purpose is to economize within reasonable limits, mentation and the verbalization of mentation. Words may be scientifically prostituted if they over-economize thinking, or if the words in themselves result in over-elaboration; too many words, with too infrequent punctuation by careful inhibitory checking.

It is exceedingly likely that more often than one would like, psychoanalysts have relied much upon words and sometimes they have been illy served by them. Numerous

trained workers industriously cultivated every field that might be useful to psychoanalysis. Properly included among the sources of information were myths, folklore, fairy tales, nursery rhymes, etc. It was inevitable that the structure of hypothesis should become very high.

Is the structure too high? Are there too many towers of conjecture? Too many unnecessary verbal adornments? Have too many wings of hypothesis been added to the structure too hastily and too flimsily, without the precaution of putting down secure foundations and adding supporting pillars of reasonably well authenticated clinical experience and fact? It is fair to note that an hypothesis should not be too much hampered in the development of its theory. If the theory is basically sound, then the workers who are constructing it will of themselves trim off its over-elaborations. If it is unsound it will fall by its own weight. Nevertheless, it is true that the natural development of any theory may be much impeded by presenting theory in the language of fact.

In this connection it seems not unlikely that, too often, psychoanalysis offends against a rule of logic that the conclusions must not exceed the premises. It is probable that many provocative psychoanalytical concepts like once the Oedipus complex and more recently the "death-wish" were lessened in their effect and impaired in their value, by having been put forth in a somewhat ex-cathedra manner and by being given a kind of priority rating in clinical psychiatry as all-inclusive in application—a status scarcely justified.

There is a more or less universal pattern of medical thought and practice concerning the scientific requirements needed before a mere theory may be held and taught and practiced as a proven fact. All in all, these requirements are rather exacting and there are many skillful "devil's advocates" who make it their business to see that theories are not hurriedly and improperly canonized into factual dogma. This is as it should be. The implications are rather serious.

Naturally, psychological medicine cannot be subjected to the same rigorous criteria as are the more physical, tangible and more exactly measurable researches. There are no bacteria or filterable virus or anti-bodies or immune sera or chemical tests which may be applied to experimental animals and human beings in order to determine whether more or less constant reactions are produced. Nevertheless even psychological medicine must have its checks and balances. There is a feeling that psychoanalysts have been reluctant in accepting even quite flexible criteria and, too, that they have been somewhat laggard in taking the steps which must be taken before one may pass from the level of theorizing—"it may be so"—"we think it is true, but much more investigation is needed"—to the higher plateaus adjoining the land of ascertained fact, where it is permissible to declare—"I am ready to assert that my conclusions are correct, because ———." This tempered attitude, perhaps is aptly expressed by the words which Sinclair Lewis had Martin Arrowsmith write in his note-book at the conclusion of long, arduous and exhaustively checked research in his laboratory: "I have observed a principle, which I shall temporarily call the X principle, in pus from a staphylococcus infection which checks the growth of several strains of staphylococcus and which dissolves the staphylococci from the pus in question."

In "Arrowsmith," Lewis' hero-scientist had made a monumental discovery and the exact and cautious words with which he described it conveyed the correct scientific attitude. The counterpart may be found on the pages of the annals of medical discovery.

It seems likely that too often in psychoanalysis there has been at least an implied insistence upon the acceptance of theory as fact, and I think it is probable that this insistence has brought about an alarming cleavage between psychiatry as a field of medical endeavor and psychoanalysis—a separation decidedly unsatisfactory alike to psychoanalysts and to the many psychiatrists who realize the value and therapeutic utility of much of the psychoanalytical doctrine.

Is psychoanalysis inconsistent in its practice? I think it is—sometimes. I am not referring to minor inconsistencies like the refusal to believe that suggestion is inevitably an accompaniment of the therapy, even granted that the analyst does not consciously strive for it.

In my mind there is a much graver inconsistency.

Freudian psychoanalysis seeks to teach the patient to sever the Silver Cord which binds him to his past. The patient is neurotically disabled because emotionally he is still tied to the authority of his childhood. He has never grown up because he has never been able to attain emotional independence. Therefore, in his emotional life, his parents have been succeeded by a procession of parental surrogates and he has remained inferior and insecure in every relation of life. Blindly he continues to react to the pattern of his childhood submission and dependency. Enormous inner conflict is engendered and finally, various neurotic symptoms come to the fore and demand consideration. Let us assume that the patient seeks help from an analyst.

The skill of the analyst enables the patient to bring up from the murky depths below the surface of consciousness a vast quantity of material, representing incomplete, abortive attempts to break the parental bonds—fixation below the level of the minimum line of adult emotional maturity and responsibility. If the patient is successful in "working out" on the analyst the emotional blocks of his early life, then, at last, he is free. Obviously, in his newly acquired freedom, his first thought should be never again to become enmeshed in the snare of emotional submission to authority. He is now independent! Henceforth, he will think and act for himself and nevermore will he obey unreservedly and blindly.

Perhaps, I am about to commit the kind of an indiscretion in the overuse of word symbols against which I cautioned, but nevertheless, I will propose the question I have in mind: Does not the analyst himself submit himself to an authority which is not devoid of emotional components? If he is an accredited analyst, he has been analyzed and has freed himself from the entanglements of emotional bonds. He has learned the technique of practice. If he is orthodox he tends to follow it somewhat rigidly and does not deviate very much from the rule. Is it possible that in this attitude there is evidence of emotional dependency?

Thinking that is emotionally motivated has warmth and momentum and is often very useful thinking, but in a scientific discipline it must be employed cautiously and sparingly.

Emotional thinking has certain distinguishing marks. For one thing, it makes enrichening associations with the greatest ease. All is grist that comes to the emotional mill. In intellectual thinking there is only a small leaven of emotion and each association must be carefully scrutinized, checked and authenticated before it may be added to the main body of thought. In emotional thinking the opposite is true. It may be readily seen how quickly conclusions may exceed premises and how inevitable it is that a part and sometimes only a relatively small and an only remotely related part, is mistaken for the whole.

Another mark of emotional thinking is its inability to deal with opposition in a mature manner. The more emotional the thinking about a belief, the more emotional is the behavior set into motion when the belief is questioned. In the early days of psychoanalysis, its opponents were furious about it and became psychoanalytic baiters, clearly showing that they were unable to give intelligent consideration to what they considered an upstart doctrine. In discussions they used such words as "lies," "liars," "dirty," "filthy" and the like, some of the words being chiefly distinguished by the fact that they were pungently Anglo-Saxon and not able to pass the censor. However, in these days, some analysts are a bit too impatient of criticism and perhaps, somewhat too ready in accusing non-analysts of having "resistances" when they question even in part, the validity of the Freudian hypothesis.

I have stated that while the analyst finds a great source of strength in the carefully worked out technique of his practice, I have suggested that too large a segment of such strength may be emotionally conditioned. In itself, that would not be unusual even in medicine. We all of us draw much strength from our medical loyalties and in general our close identification into the traditions of the medical guild. In addition, we tend to supplement the fledgling insecurity of the days of our medical apprenticeship by identifying with past and present medical heroes. A great deal that is constructive, but also

some segment of the less constructive flows from such identifications. I am suggesting that in psychoanalysis the identification is too strong; that there is too much reliance emotionally upon a system which conceivably for the analyst might be the surrogate for earlier emotionally conditioned authorities.

In any event, I feel sure you will grant that opposition to certain aspects of psychoanalysis need not be due to unresolved "resistances" but may be honest intellectual agnosticism. I feel assured that whatever portion of the opposition that is honest and well-supported eventually will be satisfied by an increasing modification of analytical doctrine and practice.

DISCUSSION

DR. JOHN WHITEHORN (Baltimore, Md.).—In his gracious and sympathetic comments, Dr. Strecker has indicated clearly the great indebtedness of all psychiatrists for the contributions made by psychoanalysis. He has noted particularly the selective absorption of some psychoanalytic findings and principles into the general psychiatric insight of our generation. The existence of this section of The American Psychiatric Association, and the occurrence of this discussion today are concrete and tangible indications of that acceptance. With good-humored candor, Dr. Strecker has also noted some of the evidences of emotional bias in the proponents, as well as in the opponents of psychoanalysis. As students of human nature, psychiatrists are not, of course, surprised to observe that psychoanalysts exhibit gratitude and loyalty to a great teacher and leader; nor, indeed, should we be surprised by the correlative phenomena of rebelliousness and schisms.

In adding my brief comments to Dr. Strecker's discussion, it is, I think, legitimate and possibly helpful to be somewhat personal. In drawing, perspective is customarily expressed as if the field were seen from a single point—the eye of the painter. I do recall some of the beautiful Chinese paintings in the Boston Museum of Art, in which the perspective is represented in reverse. Possibly this type of perspective represented one of the exquisitely polite conventions of the Chinese, as if the painter politely granted the vantage point of perspective to someone deep in the picture. I shall not try to be so polite, today.

The work of Freud and his followers in the field of the neuroses is now about fifty years old—about half the age of this Association. My own first acquaintance with Freud's ideas dates from 1917—almost the middle point of these fifty years—at which time I read Freud's "Psychopathology of Everyday Life" in Brill's translation. I was fascinated and appalled;—fascinated by the extraordinary imagination and ingenuity with which the seemingly irrelevant was discovered to have meaning and significance for human behavior; and appalled by the facile word-magic which seemed so irresponsibly to offer an explanation for anything. Two assumptions seemed particularly rash: (1st) that nothing is ever forgotten, and (2nd) that all human behavior is completely predetermined. Such excessively universal dogmatism I learned later to disregard. In partial explanation of my early reaction against Freud's apparent lack of scientific caution, it should be said that I was rather young and sophomoric. I was also preoccupied, in my spare time, with two scientific books of a vastly different sort—Gray's Anatomy and Ira Remsen's remarkable little book on the structure of organic compounds. These were side lines in a year of school-teaching (1916-1917) in a small town out on the prairies, by which I was trying to save a little money to start in medical school. Among other subjects, I taught "physiology and hygiene," and one of the "properties" for this course was a human skeleton, wherefore I purchased a Gray, to bone up in advance, so to speak. The boldly omniscient explanatory virtuosity of the "Psychopathology" did not jibe well with the austere descriptivity of osteology; nor did Freud's method of reaching conclusions compare very favorably, at first reading, with Remsen's classical mastery of imagination and fact in elucidating the atomic arrangements in alcohols, ethers and amines.

My earlier contacts with actual psychoanalysts were not such as to impress one with the possibilities of scientific progress in that field, for I was so unlucky as to encounter at first several who were temperamentally disposed to the armchair exposition of universalistic explanations; but in the later twenties I fortunately had opportunity to work alongside some gifted clinical psychoanalysts who showed a discriminating devotion to fact, and an enlightened restraint in hypothesis. Then I read Freud's "Hemmung, Symptom und Angst," and I experienced an enormous increase in my respect for one who could so radically revise his own ideas. Perhaps it is not polite to admire so greatly what is, after all, a rather homely and elementary virtue in a scientific worker. But I am sure that this audience is very familiar with that extraordinary dialectic weapon of defense—the "resistances"—the psychoanalytic form of the *argumentum ad hominem*—by which all critical comment can be pushed aside. Considering the marvelous adaptability of this defensive device, any modification of psychoanalytic doctrine may be construed as a major triumph of intellectual honesty. Freud's revision of his concept of anxiety seemed to me one of the impressive signs that the psychoanalytic *method* was indeed more powerful than the psychoanalytic *doctrine*, since it could induce spontaneous revision. In the long-time perspective, this seems to me the most important single fact, for it makes possible healthy progress.

It is, of course, trite to say that psychoanalysis has thrown its most illuminating light upon the more animalistic aspects of human nature. It brings

increased understanding of the meaner meanings of human behavior. This constitutes one limitation to its universal acceptability, for there are some persons, I believe—physicians and even psychiatrists—whose interest and faith in human beings is not sufficient to support a realistic appreciation of the baser human propensities. To maintain a humanistic faith which is somewhat feeble may require the artificial support of over-idealistic illusions and a disregard of unpleasant truths.

In any appraisal of psychoanalysis, some comment should be made, I think, on the verbalistic devices used for representing its principles—the Oedipus complex, the castration threat, the super-ego, the anal character, etc. I take these to be verbal instrumentalities for stimulating the understanding. These terms therefore in a sense constitute a part of the artistry of scientific presentation—rather than "literal realities." You see how my absurd Hibernicism "literal reality" illustrates the impossibility of putting the reality of experience into words. A statement attributed to Pablo Picasso may be useful in appraising psychoanalytic verbal imagery. Picasso said: "It is the function of the artist to paint a lie in such a way that someone will be aided thereby to see the truth."

FREUD'S SCIENTIFIC CRADLE

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The greatness of the medical school in Vienna was a result of the scientific spirit which followed the romantic period in Germany and all Europe. In the first decades of the nineteenth century, one was given to introspection, to the searching of one's own heart and its fancies. The German philosopher Fichte was teaching that there was nothing outside the ego and that all phenomena external to the self were nothing but a creation of the self. Carlyle quotes Fichte as having closed one of his lectures with the words: "Tomorrow, Gentlemen, I shall create God." Hegel and Schelling drew their conclusions from the teaching of Fichte. If the objective world was a creation of the ego, then it was hardly good economy to study the objects outside the ego. The connection of all things could be made manifest more directly through mere reflection, through dialectics, than through the laborious observation of manifold details. The ego and the objects were identical with each other (philosophy of identity); logic was necessary to lead to the knowledge of objects. The Holy Ghost had triumphed completely over science. If one wished to know what electricity was, one did not go to an electro-technical institute, which did not exist at that time, but one attended the lectures of Professor Schelling.[1]

Around the middle of the nineteenth century, however, the pendulum of philosophy swung to the other side; mysticism was discarded in favor of observation. In medicine a great number of fairy tales were thrown overboard, the new scientific spirit bore fruit and medieval romantic magic disappeared forever.

The flowering of the Viennese school was due to the labors of a great number of pioneers, of whom we may mention four: the anatomist, Josepf Hyrtl, born 1810 (in the neighborhood of Vienna), died 1894, retired 1874 after his endless study had made him practically blind; Joseph Skoda,[2] 1805-1881, retired 1871; Karl Rokitansky, 1804-1878, retired 1875; and Johann Oppolzer, 1808-1871. All of them had left the scene when Freud entered the university. However, their classical achievements, their tradition, still permeated all the scientific work of Vienna's medical school.

Skoda's name is connected with the elaboration of percussion and auscultation and modern methods of diagnosis. Long before Skoda, physicians tapped and listened at the human body. They tapped with their fingertips, listened from a distance, and then thought they knew where the trouble lay. Skoda proceeded differently. He compared hs acoustic impressions with the post-mortem findings of the prosector and so became the founder of a scientific, physical diagnosis. There was no room for guesswork in his method, no room for more or less ingenious speculation or "intuition." Skoda's glory is inseparable from the gigantic stature of Rokitansky, the anatomist of pathological processes. He made the microscope an indispensable instrument of the prosector. He is said to have dissected more than a hundred thousand bodies, and his labors gave rise to the poetic praise: *Hic mors gaudet succurrere vitae* (Here death is glad to help life). The tradition of these two men, their bequest to posterity, was this: Compare clinical and post-mortem evidence again and again; symptoms have to be interpreted, but never cease to observe.

Those of us who studied in Vienna worked in that tradition. Whenever a hospital patient died, the doctors went—I was about to say they ran—to the Institute for Pathological Anatomy. The chief, his assistants and the younger doctors in their white smocks assembled; the Day of Judgment had

[1] See my book Freud and His Time, New York, 1931, Chapter 2.

[2] In this war-mad world the name Skoda is better known from the famous munitions plant which bears the name. It was owned by Joseph Skoda's nephew in Pilsen, the native town of the Skodas. All three of the great doctors, Skoda, Rokitansky and Oppolzer, came from Bohemia, then a province of Austria.

come. The prosectors displayed a certain degree of ironical superiority; despite the diagnosticians' painful work they often had to expose our inadequacies. Not too rarely, though, the diagnosticians, schooled in decades of clinical work, proved to be the anatomists' superiors. The *post-mortem* finished, we walked back to the wards, sometimes in good spirits, sometimes slightly discouraged, and congregated in the chief's sanctum for the *epikrisis,* which meant a thorough critical discussion of the case. What mistakes had occurred and why? How could procedure be improved in the future?

Such was scientific life in the spirit of Skoda and Rokitansky, whose statues stood on the campus. Their spirit, immortal, is still alive—but not, unfortunately, in Vienna. It was alive in Freud. This statement may sound strange to those who believe that Freud overstressed interpretation. He interpreted psychic symptoms well enough, but he never lost contact with the observable life of the human being, the object of his investigation. No matter how theoretical Freud sometimes became, one could always see something tangible behind his theories. There is in psychoanalysis a certain danger of wild interpretation, leading away from observation to more or less ingenious ideology and back to romanticism. The tradition of Skoda and Rokitansky enabled Freud to avoid this pitfall. He says of himself in his autobiographical sketch of 1925: "I do not wish to create the impression that in this last period of my work I have turned my back on patient observation and indulged in speculation throughout. I always remained in intimate touch with the analytic material and never ceased to elaborate special clinical or technical topics."

Insight into the nature of diseases became more and more scientific, but progress was slower in therapeutics, which still was guesswork, a hit-or-miss prescription of frequently worthless drugs and procedures. In contradistinction to the naive faith of the romantic epoch, the medical school in Vienna fostered a notorious nihilism in therapeutics to which Skoda and Rokitansky contributed by the nature of their work. The order of the day was to cleanse the temple of science of superstitions, some of them thousands of years old. Such a cleansing had to precede any scientific therapy of the future. To begin with, the school taught: *Qui bene dignoscit bene curat* (Who diagnoses well cures well). As a rule, you do a patient greater harm by treating him for a disease he has not got than by nursing him well and leaving the rest to nature. Vienna was the city of Doctor Semmelweiss, who recognized that the doctors themselves were the cause of the terrible child-bed fever; that they themselves infected their women patients by examining them when returning from the post-mortem institute. It will also be recalled that it was the custom of our ancestor physicians to purge and bleed patients already weakened by disease. So it is clear that a considerable degree of progress was represented in the mere advice not to harm patients with so-called therapy. The gynæcologist Chrobak, Freud's fatherly friend, kept a large sign in his auditorium which read: *Primum est non nocere!* (The supreme commandment is: do not harm).

Most of the lectures aimed at recognizing and understanding diseases. The length of an academic hour was forty-five minutes, of which forty-four were filled with the description of the pathological process. Only in the last minute did the teacher seem to realize that students of medicine should also be trained for treatment, and one lecturer, after a detailed description of symptoms and their origin, used to end his hour with the words: "Treatment and therapeutics to fit the case." That was all. They frequently seemed to forget that sick people want to regain their health, that hospitals are endowed to help in their cure. I do not believe that I grossly exaggerate when I say—and this was particularly true of internal medicine—that a post-mortem was a more important event in the school's routine than a patient dismissed as cured.

Johann Oppolzer, the third of those four giants, became a staunch fighter against nihilism in therapeutics, opposing the crystal clear and cold light of the Skodas and Rokitanskys with his humane warmth. People in Vienna remembered him as a great physician and a great man. From time to time Oppolzer had successors among the

faculty who fought the tide of therapeutic nihilism; and often, when there were none available in Austria, the faculty appointed scholars from Germany because of their reputation in therapeutics. They recognized this one weakness of an otherwise illustrious school—this weakness in the realm of healing.

One of the most famous teachers from Germany, famous even before his appointment in Vienna (1882), was Herman Nothnagel. He combined both tendencies; he was at once a very important investigator of internal diseases and a noted pharmacologist. He taught in Vienna up to the time of his death (1905) and became the most popular doctor since Oppolzer. Unfortunately his private practice in Vienna occupied him so completely that his former scholarly activities were slowed down. Whenever not actually at the institute, he could generally be seen riding through the streets of the city in his "fiacre," a closed black cab drawn by two horses, as was the fashion in Vienna, on his way to his consultations in the big hotels. There he brought solace to wealthy foreigners who had come from afar—to Persians, Egyptians, Turks, Russians and all the others who had come to our city to consult him. And no less frequently did he minister to the more obscure. He traveled far to serve, to remote small villages, to distant capitals. It was hard for him to refuse a case, and he worked himself to death, succumbing at the age of sixty-four.[3] His white hair and beard, his piercing blue eyes, enhanced that majestic appearance which seemed to increase the authority of his practice. He suggested cures in Carlsbad, Madeira, Egypt; he prescribed complicated mixtures in which laxatives, digitalis and theobromin recurred frequently because of the plethora of many of his patients. In his lectures he spoke much more about therapy than did other teachers. Although he was honored in the faculty, there was a wide gulf between his position there and the god-like veneration accorded him by the public of Vienna. The scholarly world never forgot, however, the man's epochal scientific achievements of pre-Vienna days. He was one of the great scientists of Germany; his name was mentioned along with those of Helmholtz, Virchow and Dubois-Reymond, and with the same awe.

Nothnagel had a firm belief in the idealism of Schiller, in the equality of all men; he was a fountainhead of enthusiasm for the concepts of liberty and fraternity. That which became ever more questionable to others—although much was still heard of the slogans of the French Revolution and of Kant's ethical principles—remained Nothnagel's creed from his early years to his death. He lived in Schiller and died with words of Schiller on his lips. A volume opened to Schiller's philosophical poem, "The Ideal and Life," was found on Nothnagel's bedtable next to some notes on pulsation and subjective sensations which the dying man had jotted down in the moments of his last stenocardiac attack.

His conception of his medical duties was extremely strict. He said to his students: "Whoever needs more than five hours of sleep should not study medicine. The medical student must attend lectures from eight in the morning to six in the evening. Then he must go home and read until late at night."

He referred repeatedly to his own early, painstaking work. He had, he said, palpated many thousands of arteries until he could estimate blood pressure with his fingertips, with a margin of error no greater than five millimeters. He was inspiring when he described great moments in our science: "It was one of the greatest moments of my life when Robert Koch showed us his tubercle bacilli under the microscope. There they were, discovered at last, the worst enemies of mankind, and we were among the first to see them. Looking up from the microscope we knew that one of the biggest battles in the war of light against destruction had just been won."

All in all, however, nihilism in therapeutics held its ground in internal medicine. Most of the great bacteriological and biochemical discoveries which were to establish the basis for a scientific and causal therapy were still in the future. It was different in surgery after Lord Lister. With his antiseptic method, causal therapy was, so to speak, surrendered to surgery. In surgery there

[3] He originated a well-known saying, whose truth has often been debated: "Only a good man can be a good physician."

was active and universally admired therapeutic work. One of the greatest surgeons worked in Vienna—Theodore Billroth (1829-1894), an artist of the scalpel, perhaps one of the most resourceful operators of all times. Freud saw him at the zenith of his work.

The home of the school was still the old eighteenth century hospital, with its baroque sign of 1780 over the main entrance: *Saluti et Solatio Aegrorum* (For the cure and consolation of the sick). It was grey, dirty-looking and musty, and although still in use today, its appearance even in Freud's time, sixty years ago, invited the pickaxe of the wrecker. The Viennese loved it as it was because of the spirit which it had sheltered, although it finally became apparent that only the walls remained. It was very hard to get money from the government[4] for new institutes and their equipment; officials pointed out that the medical school's great achievements had been accomplished with small means. In my day they built a new Physiological Institute, and Wilhelm von Hartl, state secretary of education, said at its dedication: "Let us never forget that Bruecke and Hyrtl worked in that old and decaying building which you see, and that it was in a barn that Rokitansky produced his world famous preparations. In dedicating this palatial edifice to science, there is nothing left for me to wish but that the spirit which lived in those dilapidated structures may move into these new rooms."

The material explanation for the flowering of the school was the enormous number of patients from all the wide provinces of the Austrian monarchy who flocked to Vienna, there to be cured or to die. Later, when the school had attained international reputation, they came from all Europe, from Asia and Africa as well, and finally from the Americas. The rarest cases, which elsewhere could be seen but once in a lifetime, could be exhibited regularly in Vienna. The great number of skin diseases led to the foundation of modern dermatology (Hebra, 1816-1880), the many ear cases to the foundation of otology (Adam Politzer, 1835-1923). There were throat men using the laryngoscope invented by the Spanish singer, Garcia, and eye men using the ophthalmoscope invented by Helmholtz in Germany. All was in the observation. The doctors of Vienna never tired of gazing at patients and more patients until they reached a diagnostic mastery which impressed the foreign physicians who came to study, and of course local students as well. When Isidor Neumann, the syphilologist, put on his pince-nez and, after a short look at the skin of a patient, pronounced: "This is syphilis!" there was no appeal from the sentence.

The laboratory was not as mighty then as it is today. The germ of syphilis was not known: there was as yet no Wassermann, no Ehrlich. But the laboratory was beginning to come into its own, and the Viennese professors, although they had helped call it into being, did not like it too well. Science, while progressive, is conservative too. The school was used to studying the body of the patient directly, dead or alive. They taught: "Do not let the laboratory lure you away from the sick-bed!" Sometimes biochemists and bacteriologists were ridiculed when they tried to substitute their findings for what the professors had and they had not—clinical experience.

Long before the first World War the school showed signs of senescence. The faculty suffered under "nepotism." The professors had intermarried, and sons and grandsons succeeded to the chairs of great ancestors because of their family associations. The spirit of old Austria, in which all tended to merge easily into one family, may have favored this development. As the university was directed by the government, the professors were employees in the civil service—a big family of faithful servants of the Catholic house of Hapsburg. As long as the school was dominated by genuine idealism, nepotism could not enter, but later certain names opened all the doors of clinical institutes: it made little difference whether it was the nephew of a professor, the third son of a financier or the protégé of a bigoted clique who worked in the shadow of titans who were no more. Scientific merits took second place. I do not think, however, that these were the causes of the decline; they

[4] In Austria universities and all higher schools of learning were run by the government.

were symptoms. In spite of nepotism the faculty tried to pump new blood into the old vessels, but to no avail. Great scholars often refused to come to Vienna. Others, Strumpell and Norden among them, came and left after a few years—either they did not like the faculty or the faculty did not like them. For some reason, the historic achievement of the school had come to an end. The tradition of the great seers, an influence which had remained powerful for so many years after their deaths, was replaced by new methods in Germany and all over the world. Their spirit had disappeared. In declines of this kind, material and spiritual components are interwoven: fewer patients came to Vienna. After the war, which destroyed the Austrian empire, Vienna lived cut off from the world; and then the great disaster engulfed her.

Material causes do not, I think, suffice to explain the decay of the school. Its greatness was based on a general human attribute: the fighting spirit, the lust to destroy, sublimated into the fight for truth, without which nothing constructive succeeds. As I have pointed out, it was the transition of *natural philosophy* to science that marked the school's beginning. Men recognized the romantic tendency as nonsense, their minds became embittered and they destroyed it. Much of the satisfaction, much of the indefatigable work, of the medical heroes of Vienna and elsewhere came from this demolition of old magic. In the end this magic was so thoroughly destroyed that the younger students hardly knew the names of the old theories, fabricated before the beginning of the scientific epoch in medicine. But precisely because the work of destroying the old magic was done, the main impetus of the school broke down. The medical scientists of Vienna did not cease to struggle because they had become old—no, they became old because they no longer carried on the struggle, and surrounded themselves with a Chinese wall.

An oppressive rigidity—and not in Vienna alone—smothered the science (and art, too) of the last decades of the nineteenth century. Only a few, heralds of a new dawn, were able to break through. These forerunners of a new era are highly praised today; in their own time they were opposed and laughed at. It was the age of rigid mechanics. While the certainty of the clinicians was admirable, checked and rechecked a thousand times as it was, still the hidden poison of arrogance was noticeable in their frequently Jehovah-like attitude. The turning point of the school was reached with the coming of the sinister conviction that there was nothing more to learn, no need of introducing new methods. This condition was well advanced at the time of Freud's beginnings. He suffered considerably under this spirit. His method was entirely different from what was considered scientific in Vienna: it somehow reminded the school of the medieval stuff which had so laboriously been cast out of the temple of science.

These epigones of the scientific heroes overplayed their hands. They came to the conclusion—not a new one, for it had been adopted before, in the eighteenth century and even in antiquity—that man was a machine. What in times of religion was called the soul was lost sight of completely. This impoverishment and rigidity did not affect medicine only, but spread all over civilization. Karl Marx killed all "unscientific" utopianism, Christian socialism and nationalistic dreams, and substituted a mechanism, the dialectic law of "Capital." Charles Darwin put the mechanical law of the struggle for existence in the place of a will, a goal in nature. Such things could no longer even be talked about. The so-called liberal epoch believed in an automatic and endless progress. Progress continued all by itself—they said—if only everything was permitted to run its own free way (*Laissez-faire, laissez-aller!*). Everybody knows how these and similar formulæ are questioned and contradicted today. The pendulum must swing; only in periods of short duration, in classical periods, is an equilibrium established between intuition and scientific realism. The great medical school in Vienna represented one such brief equilibrium. Freud's education in that place at that time was of inestimable benefit, and yet it held this disadvantage: that he had to develop his own system against the resistance of a decaying age.

Others besides myself have many a time shown Freud to be foremost among those

who freed us from the confining sterility of the mechanistic epoch. It may be that we have not sufficiently emphasized how deeply, at the same time, he was rooted in the tradition which I have tried to describe here, and how, to the end of his days, he remained connected with the ideas of the Vienna medical school. He belonged among those heroic, bearded figures of the nineteenth century, to the positivists, beautiful and virile in their intellectual honesty, who believed that truth exists. He thrust open a door against the resistance of a world, and as long as he lived he held this door open with titanic strength. He must have known, although he never said this in so many words, that his inventive forces were not exclusively scientific but encompassed a multitude of other qualities—magic, religious and visionary (or, if it sounds more pleasing, artistic). He will live in history as a pathfinder between two eras—the fate of a great man whose span of life is long. We may compare him in this respect with Michelangelo, who reached from the Renaissance era to the Baroque; or with Goethe, who arose out of the Baroque and pointed the way to modern realism.

Freud emphasized repeatedly that he was no philosopher, and even that he failed to understand philosophy. Here, too, we see him caught in the tradition of the Vienna General Hospital. He really thought that a human being could exist without having an innate philosophy. It was the style of the day in Vienna to hold philosophy in contempt—a contempt, I have often thought, displaced onto philosophy from religion. Religion (it must be remembered that Austria was ninety per cent Catholic) had mighty protectors at court and among the highest executives of the government, officers on whom careers depended. Philosophy had to dispense with such powerful patrons. Quite apart from this displacement, a complete break had taken place between science and philosophy in Vienna as well as in Germany and in a great part of the civilized world. One had to make up one's mind in which of these two worlds one meant to live. This separation was far from healthy. None of the really great scientists found it possible to live in science without the enrichment of the humanities. Nothnagel read the great poets, Billroth sought solace in music, and all of them were philosophers.

Freud was equally unaware of his own highly religious nature, which is plainly evidenced in his restless devotion to the work of investigation and truth-finding. He saw this noble fanaticism in his teachers and he never denied his identification with them. What he denied was the right to call such devotion religious. We see in his comments on religion the callous attitude of the nineteenth century, which repressed this universal feeling of mankind into the unconscious. It was there, however, and irradiated life. We have only to remember how our great medical men taught, what pathos they displayed, a pathos sometimes almost ludicrous in its disproportion to the subject.

The Vienna school may have erred in many things, but it demonstrated to the world one achievement which mind alone cannot accomplish without the inner urge of a mission: the founding of a school, the creation of a tradition which will survive the founders and stabilize the school for generations. Freud and the school which *he* founded learned their mission from the earlier school in Vienna. Not only Meynert and Bruecke should be mentioned as Freud's teachers in Vienna, but all of those who contributed to the spirit of his school. The day may come when Freud's international organization will crumble; it has thus far survived the assaults of two world wars as well as countless bitter attacks, most of them pseudo-scientific, originating from friends and foes alike. Some of his former pupils have tried to organize schools of their own, and although some of them were eminent men, none was successful. It is not easy to explain rationally what they lacked for the establishment of a permanent school. Perhaps an irrational word will do: they had no mission.

Another characteristic of Freud's—a characteristic of which he was just as unaware as he was of the religious character of his devotion to science and school—was his fighting spirit. Not many words are needed here; everyone knows that he died after a life-long struggle, leaving the fires of the battle still blazing. Freud considered himself a peaceable man and said so repeatedly in his papers.

It is true that he could control his aggressiveness and suppress his personal antipathies, sometimes for a long time, in the interest of his cause. His aggression—and one should never forget that without aggression no success is possible—was definitely cast in the forms which every creative spirit attains and which Freud first saw in his medical school: the overthrow of old idols and tenacious clinging to newly gained truth.

Freud was also a man who wished to observe his patients directly and not with the intermediate aid of a laboratory. This, as we saw, was old Viennese tradition. When Freud began, all psychology seemed to be arrested in Professor William Wundt's psychophysical laboratories—which, as experimental psychology, still dominate all academic psychology today. Freud never set foot in a psychological laboratory. He opposed all attempts on the part of his own pupils to measure the psychic energies which he himself had introduced in his libido theory. The power of psychological study lay, and should lie, in the observation of the living currents in the living man. He once spoke of the chiaroscuro of his method, of the slow growth of understanding out of the vague and confused darkness of the problems he worked with, contrasting it with the super-scientific methods of some Dutch painters, who painstakingly elaborate every vein in every leaf.

I said before that the doctors in Vienna were forced to observe because there was so much material to look at. At Charcot's Salpêtrière Freud found once again this same over-abundance of material, and the same resultant flowering of scientific life. In contrast to the slightly decaying tradition of Vienna, a violent struggle was taking place in France. There was a new discovery at stake, the discovery that symptoms and diseases could be caused by ideas. It was possible to observe patients and then to fight for what one had seen.

As psychoanalysis later developed, the number of patients came to count for less than the enormous length of time, unheard of before Freud, which the physician devoted to a single patient. Yet it continued to be observation and, as Freud saw it, a kind of psychological surgery that determined success. He operated upon psychic foreign bodies—removed them from the psychic substance, because the scars could not heal as long as these foreign bodies remained to excite the defenses. Perhaps he was inspired by surgery, which in his student days was considered to be the only reliable therapy. Today we no longer believe that our work is ended with the removal of a psychological foreign body. We now know that psychic scars do not heal by themselves after the elimination of their causes. They have to be treated in a "humane" way.

In the sphere of therapeutic nihilism, nothing can compare with the utter neglect, or rather the contempt, shown by the older doctors to neurotics, particularly to those manifesting symptoms of hysteria. Even now, in colloquial language, to "become hysterical" does not mean to fall ill of any honest disease, but rather to become unduly excited over a trifle. Doctors came upon no enlightening post-mortem findings with regard to neurotics; they had not the slightest idea of the nature of a neurosis; and they felt entitled to assume that these unfortunate patients were either malingerers or attention-seekers or, at very least, ludicrous. Under those circumstances many of the doctors treated them accordingly and had their fun with them in therapeutics. Electric currents, ill-smelling and ill-tasting medicinal drops, all kinds of mock procedures were tried upon them, and when the patients improved under this treatment (perhaps because of the power of suggestion or other more complicated constellations of reactions, such as absence from home), it became obvious that the ailment was just as unreal as the cure.

Compared with the therapy of those days, Freud's psychoanalysis is certainly in utter contrast to its scientific matrix in the Viennese school. Yet the influence of Viennese nihilism in therapeutics is obvious in Freud's work. He never renounced the inscription over our pathological institute: *Indagandis causis et sedibus morborum* (For the discovery of the causes and the locations of diseases). Whenever he said that his heart was not really in medicine (a remark which he made more often in conversation than in his writings), what he meant to say was that he considered the therapeutic aspect of psy-

choanalysis less important than the work of psychological investigation. He says in *Epilogue to the Problem of Lay-Analysis*, 1927: "After forty-one years of medical practice, my knowledge of myself tells me that I have not been a regular physician. I became a doctor because I was forced out of my original aim and it is the triumph of my life that, after a long detour, I found my way back to my initial tendency. I was not aware of any urge to help suffering people in my early years, my sadistic assessment was not very strong, so that this one of its derivatives did not have to develop. I never played 'doctor,' evidently my infantile curiosity used a different outlet. In my youth the urge to understand something of the puzzles of this world, and, if possible, to contribute to their solution, became overwhelming. To enroll in the medical faculty seemed to be the best approach, but then I worked in zoology and chemistry without satisfaction until, under the influence of Bruecke, the strongest authority in my life, I persisted in the field of physiology. . . . . Later I passed all the medical examinations without being interested in anything medical until my revered teacher reminded me that I had to renounce a theoretical career because of my poor economic situation. That is how I came from the microscopy of the nervous system to neuropathology and then, on the strength of new stimuli, to my work with neuroses. I think," Freud does not neglect to add here, "that the absence of a real medical disposition did not hurt my patients. A patient does not profit much from a doctor whose therapeutic interest is emotionally overdeveloped. It is in the best interest of a patient to be treated by a physician who works as coolly and as correctly as possible." [5]

It seems to me that the urge to cure his neurotics was stronger in Freud than he knew. In spite of his ambivalence he became a great physician who enriched the world with a new method of curing neuroses. He vacillated between investigation and the elaboration of his therapeutic technique as the Viennese school vacillated between Skoda's nihilism and Oppolzer's therapeutic endeavors. And yet it seems to me that his school has surpassed him in therapeutics. The younger generation in America join our school more and more rarely in order to become psychoanalytic investigators. They wish to be trained as healers. And alas!, I am almost tempted to add, for in our science more than in any other medical speciality, investigation and therapy are inseparable.

It was a tragic misunderstanding, still perpetuated among physicians, that the medical men in Vienna suspected Freud from the start, that he was not one of them, that this scientific genius of first magnitude walked ways not permitted to a positivist. They thought he wore a magician's cap. As long as he lived, Freud suffered from this separation from a faculty among whose best, he felt, he belonged. But perhaps he belonged less among his contemporaries than among the Skodas and Rokitanskys, who were dead when he conceived his great ideas. It may be that they would have accepted his psychological enlightenment as a welcome contribution, as a bridge from the fruitless introspection of the romantic past to a scientific understanding of mental diseases.

[5] He says later, in *New Introductory Lectures* (1932): "I told you that psychoanalysis began as a therapy; I did not, however, mean to recommend it to you as a therapy, but because of the truth in it, because of the enlightenment which it gives us about man's closest interest, his own nature, and because of the relations which it reveals between vastly different activities. As a therapy, it is one among many, to be sure—*prima inter pares*. . . . ." Here again he does not fail to add: "Were it not for its therapeutic value, it would not have started with patients and developed for a period of more than thirty years."

INTERNATIONAL PSYCHIATRY IN THE POST-WAR WORLD[1]

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In a paper presented to this Association in 1941(1) I suggested that war be regarded as a mass psychosis caused in large part by emotional disorders, and adjustment difficulties somewhat similar to those causing individual psychoses, and as such offered a most important field for psychiatric effort. The great physical and mental damage war causes to millions of people makes it a psychiatric public health problem of the first magnitude. The hope was expressed that preventive psychiatry, in conjunction with other social sciences, would undertake some responsibility for international mental health and the prevention of war as a mass psychosis. This Association was urged to set up a committee on international relationships to begin a study of the problem and to make contacts with psychiatric organizations in other countries and with official bodies of other social sciences, here and abroad. The American Psychiatric Association readily accepted this suggestion; a committee has been established which has already begun preliminary work, although it is recognized that its most important work cannot be undertaken until the present war is over.

Within recent months Richard M. Brickner has made a scholarly and thoughtful presentation of the paranoid qualities of the German national mentality, drawing attention to its similarity to individual paranoid reactions and also pointing out the need of psychiatric understanding and treatment of this form of mass paranoia. Dr. Brickner offers specific suggestions for the dissolution of this paranoid tendency, which recommendations will doubtless have the full consideration of our Committee on International Relationships. As his book(2) is not off the press at the time this paper is being prepared, I can only quote from his articles as published in the *Journal of Orthopsychiatry* (3), and in the *Atlantic Monthly* for March and April 1943 previewed by Howard W. Blakeslee. He proposed a "clear area" within Germany of those who still have, "sane, peaceful, democratic minds and hearts." This group would provide the new educational leadership, which, coupled with complete disarmament and economic opportunity, would make possible a more healthy emotional development. He concludes—"so far as I know no international group of men of good-will ever before organized a program remotely approaching what this objective would require. How it should be done is a job for experts in a dozen different fields—anthropology, law, sociology, nutrition, transport, propaganda, psychology, economics, as well as psychiatry."

I do not attempt any criticism of Brickner's proposals but am grateful that he has put them so clearly and so forcefully for intelligent discussion. There are undoubtedly other causative factors for wars and warlike tendencies, inherent in personality, geography, economics, traditions and all those factors that make for individual as well as national regression, all of which must have most careful consideration.

In this connection it might be noted that the late William A. White was intrigued with some of these problems and discussed them towards the end of World War I(4). He appreciated the unconscious as well as the conscious factors in war etiology and regarded war as a mass regressive reaction, akin to individual regression. Although acknowledging that wars are somewhat like cataclysms of nature resulting in renewals of energy and efforts for further social progress, he nevertheless expressed the view that we should look forward to a more intelligent method of settling international disputes. To quote:

> Does all this necessarily mean that war, from time to time, in the process of readjustment, is essential? I think no one can doubt it has been necessary in the past. Whether it will be in the future depends upon whether some sublimated form of procedure can adequately be substituted. . . . . Whether or not the present time is ripe for such a wider expansion of human interests as is implied

[1] Read at the ninety-ninth annual meeting of The American Psychiatric Association, Detroit, Michigan, May 10-13, 1943.

in a "league of nations" remains to be seen, but at least to try to effect such an adjustment as is implied in an effort to bring the great nations of the earth to a common understanding is not only a move in the right direction but, even if it fails to accomplish all that its most ardent advocates wish, it cannot fail—because it is rightly directed—to bring the goal nearer, to speed the day of its actual accomplishment.

One cannot but believe, if White were living to-day, he would be giving strong leadership to psychiatry and the social sciences in the scientific treatment of this international psychosis.

Rosten(5), also, has made a critical study of man's personal predispositions to war and concludes that "war is an opportunity to act out in reality the conflicts of the personality. It is an escape from, and hence a solution of, internal crises which are devastating and unbearable. War is a nostrum for a vast assortment of psychic ills. He goes on:

> Nor can we prevent war by sermonizing that "war is inhuman" or that "war doesn't pay," not because our reasoning is defective but because rational exhortations are useless against irrational motivations and non-rational compensations. The call of war, compact of these, cuts through the layers of morality, conscience, and common sense to the primary and primitive reservoirs of the human personality. . . . . To the pacifist war may signify horror, to the economist folly, to the philosopher barbarism; but to the mass of men it means many precious things; romance to the miserable; action to the inhibited, power to the impotent, reward to the unnoticed.

He suggests as a part of the solution that (1) "We must enrich the pattern of peace so that it becomes emotionally gratifying and emotionally all-responsive and (2) we must incorporate into the structure of peace substitutes for military aggression which are psychologically as cathartic but socially harmless. William James approximated the truth in his phrase, 'a moral equivalent of war.'" Some of these moral equivalents would be political warfare, social reforms, educational campaigns and sports competitions.

It should also be kept in mind that our problem as psychiatrists is not specifically with Germany to the exclusion of the rest of the world, including ourselves. Japan and Italy are full partners with Germany in the present war and related psychopathy in those peoples and their leaders requires consideration. France under Napoleon was the chief public enemy in the first part of the last century. In the preceding centuries Spain and Holland and Austria had the same disease. The Mongols, the Mohammedans, the Norsemen all preceded them. It is worthy of note, I think, that the British, the Dutch and the Scandinavians did not achieve a fair degree of national mental health until they gave up ideas of world conquest and sublimated their aggressive and hostile tendencies by social reforms within their own boundaries. It seems to me that we have here a very definite lead for immediate post-war planning. However, we do not know where or when this tendency may again assert itself, hence the importance of orienting ourselves to this problem in an international and world-wide sense and not necessarily limited to one or two particular countries except for immediate attention. I would suggest also that we avoid the danger of claiming omniscience for psychiatry; we have our contribution to make, an important contribution, but it can be made properly only in conjunction with the other social sciences.

I have been careful, moreover, to avoid specificity as to method in this paper or its predecessor, emphasizing only the need of applying scientific method to the proper solution of this enormous public health problem.

There are doubtless great numbers of people who regard plans for a warless world as utterly Utopian and unrealistic. Nevertheless, most people agree that the present war, already costing 10 million lives, and untold treasure could have been avoided if different techniques had been used. If the present war could have been avoided then the one that may develop in 1965 can be avoided. It is surely realism rather than unrealism that every possible effort be made to preserve physical and mental health from destructive international psychopathological epidemics. It is often true that visionaries may express weird and unsound ideas and may be rather impractical people. The marvels of science we enjoy to-day, however, were all dreams before they became realities. In the field of preventive psychiatry most of us believe that mental ill health is largely, if not entirely, preventable. Because of the faith

that is in us, and the faith we have in the essential capacity of mental science, we see no reason why the psychopathology that leads to wars cannot be effectively handled. Fifty years ago tuberculosis stood in first place as the cause of death. The workers in this field, because of the faith that was in them, reduced steadily the incidence and mortality of this disease and they now dare to say that tuberculosis can be entirely eradicated in a single generation. Experts in tuberculosis who might have made that statement fifty years ago would undoubtedly have been called dreamers.

The progress and achievements of psychiatry since the founding of this Association one hundred years ago increase our faith to believe that the future must yield a rich harvest of accomplishment not only in curative psychiatry but in preventive psychiatry in both its personal, interpersonal and international aspects. Look back to 1844 and "The Association of Medical Superintendents of American Institutions for the Insane." Psychiatry had emerged from the long, dark ages of ignorance, superstition, witchcraft, cruelty and neglect to certain humanitarian attitudes. After humane care was established our Association took a leading part in changing the conception of lunacy to one of sickness with improved treatment methods, and good nursing; it changed the asylum concept to the hospital idea (not without a serious inner and outer struggle); it aided in the development of the mental hygiene movement; it developed research and experiment; it sought integrations with psychology, particularly the dynamic psychologies and with the social sciences and with general medicine; it has given birth to the mental health clinic; it has introduced psychiatric concepts into criminology and allied fields; it has encouraged the study of physical and mental pathology; it has given leadership to better teaching in the medical schools; its services are valuable in the armed services and in industry. These solid, practical achievements were scarcely dreams in 1844.

The governments of the United States, Canada and Great Britain have recently announced plans for complete social security in the post-war era, all of which include very definite emphasis on health insurance. If and when such plans are brought to fruition it is expected that all general practitioners will have an important part in the plans for keeping people well. We are doubtless agreed that keeping people well means keeping them well mentally as well as physically. But how well prepared is the average physician to protect the mental health of his patients and to educate them in sound mental hygiene techniques? By no means all physicians have had adequate instruction in medical school in preventive psychiatry. The National Committee for Mental Hygiene has done and continues to do a great educational work in this field. The American Psychiatric Association at the time the National Committee for Mental Hygiene was formed, had its chief interest in the field of mental hospital treatment but at the present time every psychiatrist worthy of the name is also vitally interested in preventive psychiatry. These two great national organizations supplement each other's activities and under their joint auspices a short, concise, authoritative volume might be issued for the use of physicians, which would give them clear and explicit information on the preservation of good mental health and the avoidance of mental ill health.

Social security should mean much more than health insurance and freedom from want. It should also mean security of the individual in the society of nations. For thirty years we have had no security against aggression as nations or individuals. The present war is proof that we failed to learn how to provide this type of security. We know now that there can be no hope of an effective isolation of ourselves from European or Asiatic tensions which make for war. We are isolated by space from wars on other planets but no longer from wars and warlike movements on any part of this planet.

In my previous paper I emphasized not only the psychopathology that leads to wars but also the previous efforts made by psychiatrists to aid in the prevention of wars. We know these efforts were utterly unsuccessful and of very limited scope. There were of course may other movements to preserve peace all of which likewise failed.

The Carnegie Endowment for International Peace was one of these. In spite of intelligent leadership, ample funds and good publicity I cannot but wonder how many people ever heard of it or how much influenced were those with responsibility for national leadership. Nor can we the people escape responsibility by projecting blame onto our leaders or even the leaders of enemy countries. Our leaders are our elected representatives, elected to do as we wish them to do. We are the nation, we are the government, we simply delegate to these elected representatives the right only to act as our representatives. Here again we are confronted with the tremendous importance of the type of person we elect to act for us. These leaders are the uncommon people in whom we the common people place confidence. If they are uncommon in their intelligence, personal integrity, broad education and high ideals and if similar people can be elected to high office in other countries, we can hope for much. If, however, our elected representatives lack these qualities, if they are uneducated, unprincipled, fanatic and yet magnetic for the masses, how great will be our peril. Psychiatry has much to offer to a better solution of international psychopathology. We know people, their instinctive and emotional tendencies and the disorders that lead to individual mental maladjustments. We know the effects of unhealthy environment on the individual and on groups or nations of individuals. We have confidence that scientific research will continue to solve difficult problems as it has done so brilliantly in the past. There is no reason apparent why science cannot succeed ultimately with the problem of war prevention. American psychiatry and the other social sciences should pool their knowledge and work towards this objective in conjunction with similar organizations in all other countries. I feel sure our Committee on International Relationships would welcome suggestions.

There are doubtless many people, even some scientists, who believe that science should work only in laboratories and avoid political science. It might be suggested that heretofore this has been the situation, except that in times of war, the achievements of science have been put to destructive purposes and at these times science is asked to apply itself to the utmost to produce inventions, methods and achievements for the successful prosecution of war. Should we not insist that our services be used by the nation during peace to help prevent wars with their mass destruction and damage to personality?

A recent editorial(6) entitled, "Science and Politics" takes this same position and is quoted in part:

> But to asseverate that scientists should shun politics is to adopt a position wholly indefensible in the light of past events and future prospects. . . . . If there is one thing which science has unmistakably demonstated, it is that the whole of the phenomenal world, including human nature, may confidently be expected to show itself rational in character. . . . . Admittedly the time is distant when psychology will become an exact science, when ethics will become a science even of the most rudimentary kind, and when domestic and international politics will be inspired by the scientific method. But everything goes to show that, however remote, such an end is not inherently unattainable; and to recoil from a task because of present difficulties and future uncertainties is unworthy of the spirit and service of science.

I should like to close this paper with the concluding paragraph of my 1941 paper:

> The first century of our existence as an Association of psychiatrists is near its close. We can say with pride that we and our predecessors have labored well for the better care and treatment of the mentally ill, for the better understanding of the causes of mental illnesses, for the spread of principles of mental hygiene. We have not shirked our responsibilities. Nor will we shirk them in the second century shortly to commence. Who can foresee the achievements of psychiatry in the next hundred years? When the history of our second century comes to be written, may it be recorded that The American Psychiatric Association was largely responsible for the elimination of the international psychosis—war.

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REVIEW OF PSYCHIATRIC PROGRESS 1943

GENERAL CLINICAL PSYCHIATRY, PSYCHOSOMATIC MEDICINE AND "PSYCHOSURGERY"

NOLAN D. C. LEWIS, M. D.[1]

Despite the war situation with the consequent handicaps to civilian psychiatric research, a number of valuable studies have been made in the fields included in this review. Very little of whatever has been done in most of the European countries, is available for review, although one may assume that some progress has been made there. Historical accounts inform us that certain radical political and social conditions retard but never paralyze medical advance, and in fact may enhance special aspects of it. Some progress in medicine has always been in evidence.

Next to the keen interests in war psychiatry, schizophrenia continues to command the attention of many psychiatric workers. The late Dr. C. M. Campbell spent a great deal of time, thought and effort in the study of this group of conditions, in an attempt to clarify the clinical pictures. Early in 1943 (1) he published a follow-up study of a special group of patients showing serious deterioration with rather definite characteristics. Some of these features were an insidious onset, outstanding constitutional inadequacy and a lack of vital energy, combined with unfavorable conditioning and frustrating factors. The condition to which he applied the term schizophrenic "surrender" seemed to be one of defect rather than of conflict.

The language of schizophrenics continues to interest a number of workers, and one of the outstanding contributions to this subject is the report of Whitehorn and Zipf(2). This informative article gives the results of a quantitative investigation of the frequency and diversity of words used in a series of letters written by a paranoid schizophrenic patient. Rodriquez(3) of Chile, S.A. published a monograph on the expression of the motions and the physiognomy of schizophrenic patients. There is an extensive presentation of case material illustrating facial expressions and movements of muscles. Goldstein(4) who has made a comprehensive review of the psychological approaches and some valuable research suggestions says, "Research in schizophrenia, in general, has received a new impetus from the recent success of the somatic treatment . . . . one should not let the occasion go by for comparative investigations of the same patients with methods of physical and psychological examination. Only such a parallel study promises to open the way to attain a real knowledge of the essentials of this disease and to improve our therapeutic measures."

A contribution to the subject of prognosis in schizophrenia was made by Chase and Silverman(5) who analyzed a number of factors in 150 patients treated with metrazol or insulin. Some of the favorable prognostic criteria noted were short duration of illness, acute onset, atypical acute symptomatology, obvious exogenic precipitating factors, catatonic sub-types, pyknic habitus and extraversion. Cases of long duration (2 years of over) and the presence of process symptoms in the absence of confusion were features of unfavorable import. Shock therapy shortened the duration of the psychosis in patients having the favorable prognostic elements, and was thought to be perhaps the deciding factor in the recovery of those of doubtful prognosis.

Prognostic factors in the involutional psychoses were studied by Drobues(6) in a group of 51 patients at the Norwich State Hospital. He investigated the significance of pre-psychotic personality, sex, marital status, time of onset and elapsed period before hospitalization, family history, menopause situation, various symptoms and effect of treatment. It was concluded that involutional psychoses "might more properly be diagnosed either manic-depressive psychosis or schizophrenia which has occurred late in life." The rôle of hostility in affective psychoses is presented in an article by Altman

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and Friedman(7). Their concepts of the significance of hatred, sadism and aggressiveness as represented by depressions and manic episodes are illustrated by 15 cases. There are a number of therapeutic implications worth considering.

A number of valuable suggestions pertinent to the practice of clinical psychiatry may be found in Pollock's(8) presidential address at the annual meeting of the American Neurological Association in which he discussed the effect of extremes of environmental changes. Here is an excellent review of fatigue, exhaustion, loss of sleep, blast concussions and other disturbances seen during the first world war, but also having a wide application in civilian life.

A number of interesting researches have been made in the field known as "psychosomatic medicine." Space allows for comments on only a few. Wolff and his coworkers have continued their valuable studies on the relationship between emotions and gastric functions. A recent article(9) reviewing this situation should be read. "During periods of experimentally induced anxiety, hostility and resentment" a rise was noted in the acidity and increased contractions in the stomachs of all the patients suffering from ulcer and in many of the normal subjects. Moreover, the investigators were able to reverse this process and cause a decrease in acidity and motility by inducing in the patient "feelings of contentment and well being." A connection between the onset and course of gastroduodenal symptoms and the occurrence of emotional reactions has been demonstrated. The case histories reported by Winkelstein and Rothschild(10) obtained from 33 young adult males with duodenal ulcers, showed characteristic psychological backgrounds. These patients were suffering from prolonged frustration, repressed strong emotional factors with sadistic and masochistic tendencies to the extent that this inner tension bore a close relationship to the incidence and recurrence of the peptic ulcers.

The significance of the asthma syndrome with a discussion of its subjective meaning was reported by Brown and Gorten(11). They observed a group of asthma patients attending the allergy clinic at the Boston Dispensary, comparing them with control groups—one of non-asthmatic allergic patients. Their survey of personality variables in asthma revealed a pattern which they call the "respiratory personality." It seems that the asthmatic subject is of cyclothymic disposition associated with paranoid features, repressed hostility and self-punishment motives. A number of interesting features in "psychosomatic" personality organization were brought out by this investigation. Apparently bronchial asthma is not common among psychiatric patients, according to Leavitt(12) who found only 10 cases of this disorder in a group of 11,647 psychotics. These 10 cases were found among the schizophrenics, manic-depressives and paranoid conditions. The manic-depressives had the highest incidence. In his survery of four large state mental institutions in Illinois and one institution containing 4,570 mentally defective and epileptic patients, there was not one instance of bronchial asthma to be found in an epileptic or mentally defective person. It is a neurosis and therefore should not be expected in a high incidence among psychotic and mentally defective persons.

Psychogenic rheumatism was found by Boland and Carr(13) to be the most frequent cause of disability in 450 consecutive cases diagnosed as arthritis or an allied organic condition, previous to admission to the medical service of Hoff General Hospital. To these authors the term "psychogenic rheumatism" refers to "those states in which symptoms such as pain, stiffness, subjective sense of swelling or limitation of motion in the muscles or joints are caused, intensified or perpetuated by mental influences." Studies of the skin temperature changes under induced emotional stress were made by Patterson and co-workers(14) on 25 rheumatoid arthritis patients and an equal number of controls. Some suggestive differences were noted. Emotional stress produced a drop in skin temperature indicative of circulatory changes. The importance of this mechanism in the development of arthritis was not clear but its action appeared to be present in producing exacerbations and in influencing the course of the affection. The exact relationship between emotional stress and arthritis is not known but it is an inviting subject for further research.

Psychosomatic features in the personality

makeup of persons with migraine were described by Trowbridge and associates(15) on the basis of several factors which were discovered in the analysis of a number of cases. Here also is an instructive review of some of the psychological work and findings in the general field of migrainous disturbances. Among other psychosomatic researches one finds the study of Leavitt(16) dealing with aspects of uterine retro-displacement and prolapse in normal and psychotic women. He says "the conclusion drawn from this study was that hebephrenic dementia præcox, typifying the ultra in regressive phenomena and resulting through dysfunction of the autonomic nervous system, in somatic atonia, was found to present the highest incidence of functional uterine ptosis among the functional psychoses." The significance of similar findings in non-psychotic women is discussed.

Rome and Fogel(17) of the U. S. N. R. among others have noted the personality types and the disturbances of mood among our soldiers with various parasitic affections. These psychological features are pronounced in filariasis where there are found fatigue, irritability, depression and anxiety mixed with an apprehension and concern which are not present among the infected natives of the same area. These reactions and the therapy are well described and an instructive account of the whole environmental situation is given.

A standardized pictorial body image test was utilized by Brown and Gorten(18) in the study of personality patterns in various clinical groups of patients. They find that the representation of the body image by a person under spontaneous conditions provides an indication of the nature of the "most dominant component of his personality." The criteria given are significant and are applicable to psychosomatic problems. Disorders in the body image in those suffering from psychoses were investigated by Bychowski(19). He discusses hypochondria, depersonalization and disintegration of the body, presents case material illustrating these phenomena and concludes "the problem of total or partial projection of body-image seems to include manifold implications. It ranges from the well known phenomenon of phantom, through projection of non-injured parts of the body and it ends in total projection of the entire body image.

During the year 1943 two large textbooks on psychosomatic medicine have appeared; one, "Psychosomatic Medicine" by Weiss and English(20) of the Temple University Medical School, Philadelphia, and the other "Psychosomatic Diagnosis" by Dunbar(21) of the College of Physicians and Surgeons, Columbia University, New York. These two volumes contain not only a large amount of information on the subject, but are rich in research leads for future investigation.

The actively debated subject of "psychosurgery" as represented chiefly by the operation known as prefrontal lobotomy is commanding an ever increasing interest, as experience in the application of the method accumulates in the various centers for psychiatric practice and research. An orientation in the subject may be found in a brief but very comprehensive review of the results, indications and hazards to date by Ziegler(22) who made a survey based on the operations reported from 19 clinics in the United States and Canada. The results obtained in 618 cases reported, convinced the author that the operation deserves a trial over the next 5-10 years. Bennett and his associates(23) also believe lobotomy has been established as a useful procedure in psychiatric treatment and deserves further investigation, but should be limited to "chronically disabled psychotic patients who have been unimproved by other therapies—not to be used in psychoneuroses and affective states until the patients have proved totally refractory to other methods." Hutton(24) of England reported in some detail the results of prefrontal leucotomy in the relatively large series of 50 patients. The fatality rate was 4 per cent. In most cases the post-operative course was uneventful; however, transitory enuresis occurred in several instances. The operation was undertaken only in cases having a poor prognosis and refractory to other types of therapy (32 were schizophrenics); therefore it seems rather remarkable that 23 of these patients were living at home and making a more or less satisfactory adjustment at the time the report was written. Various other post-operative reactions as well as prognostically

favorable and unfavorable mental symptoms are discussed.

Fleming and McKissock(25) describe the results in 15 patients, 12 of whom were suffering with melancholia. Of these, 7 made a complete recovery. Some of these patients had urinary incontinence following the operation. It seemed that the more severe the psychosis before the operation, the more likely was urinary incontinence to follow it. Freeman and Watts(26) the pioneers in the use of this surgical method in the United States have discussed, relative to lobotomy, the functions of the thalamus and of the frontal lobes, post-operative conditions, convalescent care and aids to rehabilitation, care after the patient reaches home and the remaining defects. In this article they give their viewpoint on the story to date, with emphasis on the clinical features. Among the disappointing results reported are those of Heilbrun and Hletko(27). The operation was performed on 10 chronically disturbed schizophrenic patients and one mentally defective. "Insignificant amelioration of symptoms was noted in 2 and no improvement in all the other patients." Two patients died 5 days following the operation, one of bronchopneumonia and the other of a large hemorrhage in a frontal lobe. "One patient became decidedly worse and developed convulsive seizures two months following operation." On the basis of their experience these authors do not recommend prefrontal lobotomy. Finally there is a review and discussion from the angle of a research psychologist, Kisker(28), who has examined a number of patients following the operation, by means of a standard psychological tests. Impairment of abstract and categorical thinking was found and not much else. All reactions are rather difficult to interpret in the light of the present complex situation.

We are now in dire need of intensive clinical psychiatric studies of patients by experts, before and after operation to enable us to evaluate results.

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ALCOHOL, NEUROSYPHILIS, PHYSIOLOGICAL THERAPY, GERIATRICS

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Alcohol

Two events during 1943 indicate the growing interest in the problems of alcohol. (1) The Research Council on Problems of Alcohol announced a $1,000 award for the outstanding research on alcoholism during 1943, open to any scientist in the United States, Canada or Latin America. (2) A School of Alcohol Studies was established at Yale University. The first session was held during the summer of 1943. Seventy-nine students were enrolled, only two of whom were physicians. Twenty-three listed as temperance workers, 18 as ministers, 14 as educators, 12 as penologists and welfare workers. Five were from Alcoholics Anonymous, 3 were from the alcoholic beverage industry and trade workers, and 2 were members of state liquor control boards. The session lasted six weeks and was under the sponsorship of the laboratory of applied physiology of Yale University. The purpose of the lectures was not to offer a simple solution to the problem of alcohol but to give some idea of its extraordinary complexity. The list of lecturers was impressive and indicated the high level at which this course was given.

A most interesting monograph was published by Anne Roe, Ph. D.(1), "A Survey of Alcohol Education in Elementary and High Schools in the United States." Part I of this report analyzes the teaching process and teaching material in various elementary and high schools, public, parochial and private, throughout the United States. The material is carefully presented and critically discussed. The various errors in teaching are pointed out and suggestions made for improvement. Part II analyzes the laws of 48 states and the District of Columbia regarding the inclusion of alcohol education in the school curricula. This is an excellent presentation and anyone wishing to become familiar with this whole question should read the article carefully. It is too long to do more than mention it here.

A very interesting article of 120 pages by Donald Horton(2) discusses the functions of alcohol in primitive societies. After a general discussion of psychological effects of alcohol the author presents actual reports from cultures all over the world. The article is a revision of a dissertation for the degree of Doctor of Philosophy.

Malzberg(3) reports that there has been a general increase of admissions for all types of mental disease in New York State from 1920-40. The increase for alcoholic psychoses has been much greater than the general increase for all psychoses, presumably indicating increased consumption of alcohol.

Maletz and Gardner(4), at the Danvers State Hospital, made a study of 83 cases diagnosed as alcoholic deterioration. They came to the conclusion that in only 27 of these cases was the mental deterioration due to alcohol. Nearly one-third of the patients had been released as improved.

Voegtlin *et al.*(5) found, in a study of 303 alcohol addicts, that 41 per cent showed a decreased glucose tolerance. They do not feel that the basis for this has been worked out, although several theories have been presented.

An interesting article by Dewan(6) deals with the effect of nicotinic acid on brain metabolism and shows that alcohol decreases oxygen uptake, but if nicotinic acid is added there is a marked increase of oxygen uptake. It is suggested that it is of the greatest importance that people using alcohol have plenty of nicotinic acid and riboflavin and that, if an individual suffers from such a deficiency, the effect of alcohol is likely to be greater and more prolonged.

Novak and Adams(7) found that, over a period of six months, thiamin and nicotinic acid added to whiskey remained constant,

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but there was a reduction of about 50 per cent in riboflavin.

Four cases are reported by Tucker and Porter(8) that developed a hypoglycemic coma about 8 to 12 hours after drinking. The question is raised whether some adulterant in the alcohol may have produced these symptoms. The clinical picture was typical of hypoglycemic coma.

An unusual case(9) is reported of a murderer who had drunk 4 pints of beer before the crime, and was then given this same amount of beer experimentally. It was found that his blood sugar was markedly reduced and the electroencephalogram showed abnormal findings. On this basis the jury found him guilty but insane at the time he committed the act. While this appears to be an attempt to get at some scientific basis for determining responsibility, the whole study hardly seems to warrant much in the way of conclusions.

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Neurosyphilis

A review of the literature of the past year indicates that there has been no striking new development in the treatment of neurosyphilis. As a matter of fact, the work of the year consists largely in carrying out the treatment procedures which have been previously worked out and represent nothing that is unique or novel.

One article which has significance is based upon a study of 145 autopsied cases, and indicates that the clinical diagnoses as to the sub-division of neurosyphilis are very faulty indeed, and suggests that everyone might well review the criteria on which he makes his diagnosis(1).

In contrast to the lack of development in the treatment of late neurosyphilis are the articles dealing with the treatment of early syphilis, which will presumably have a definite bearing upon the problem of neurosyphilis, especially those relating to the rapid treatment with fever and mapharsen, and the extremely suggestive work with penicillin(2).

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Physiological Therapy

In spite of the war, over 125 papers on the physiological treatment of psychoses were published in the past year. Convulsive treatment, especially electroshock, holds the forefront of interest, and the war situation has made it increasingly difficult for most hospitals to maintain insulin wards. In spite of some interesting results, refrigeration(1) and nitrogen therapies(2) have gone the way of their many predecessors. Prolonged insulin coma(3), and electronarcosis(4) suggest therapeutic possibilities, but not much more for the present. The incorporation of psychiatric treatment wards into general hospitals continues to prove practicable both here(5, 6) and abroad(7). It fulfills a real need and seems to signalize the return of psychiatry to its home in medicine.

THE VALUE OF SHOCK TREATMENTS

Impastato and Almansi(8) summarized reports on a total of over 2000 cases treated

with electroshock. There is practically unanimous agreement on its great value in depressions, particularly involutional depressions(9). However, in view of the varied criteria for diagnosis, treatment, and results used by different authors, not more than a general impression of its usefulness in certain other functional psychoses is permissible.

The most useful statistical compilations of data on the subject remain those of Benjamin Malzberg(10), of the New York State Department of Mental Hygiene. Most authors report disappointing results with electroshock treatment in schizophrenia. Kalinowsky and Worthing(11) believe that if 20 or more treatments are given, the results equal those of insulin treatment. It has been little used, and appears to be of little value, in the psychoneuroses.

Even in some fully documented reports, special methods of statistical interpretation sometimes lead to surprising conclusions. For example, it has long been well established that slight degrees of improvement in schizophrenics following insulin treatment are not well maintained. Thus, Rennie(12), in a follow-up (two months to three and one-half years) of case material from the Phipps Clinic, found that 15 of 18 slightly improved schizophrenics had an unfavorable outcome in the follow-up period. But it has also been well established that cases of recent onset have a much better prognosis, and that the more substantial degrees of improvement are better maintained. This is also proven by Rennie's figures, which show that in 19 of 26 recovered or definitely improved cases (classified by the hospital as schizophrenic) improvement was well maintained. However, beyond saying that "illnesses of short duration have a far better prognosis than those of long duration," Rennie makes no attempt to break up his case material into acute and chronic cases. On the contrary, he includes in his treated cases an early group of 8 cases (12 per cent of the total case material) in which only patients "with an exceedingly poor prognosis" were treated. His conclusions are therefore unnecessarily discouraging. Notkin's(13) data also suggest to conclusions quite different from his own. The upshot of all statistical compilations to date amounts to this: the initial results with insulin treatment in early schizophrenia are extraordinarily good. Cases tend to relapse through the years, but the better degrees of remission are better maintained. All relapsed cases should be promptly treated again, and if necessary, repeatedly, for the shock treatments are by far the best available treatments for schizophrenia and depressions. It is to be hoped that some central agency, such as the United States Public Health Service, will soon undertake to bring some order into the matter of statistical standards.

An important new variation of electroshock treatment to prevent relapse in recovered cases, or to maintain improvement in chronic cases, is recommended by Moore (14). After an initial course of treatment, an occasional "maintenance treatment" is given at intervals of one to several weeks, depending on the case. A number of very chronic cases have been thus maintained in an improved condition for over two years.

EXPERIMENTAL WORK

Experimental work on physiological treatment was scanty this past year. Welsh(15) found that insulin hypoglycemia decreased the acetylcholine level of rat cerebral cortex, and related this to the diminished excitability of the cortex during hypoglycemia. It should be remembered, however, that rats, unlike human subjects, respond to insulin with severe and repeated convulsions. The acetylcholine content of the brain is probably not intimately involved in the pathophysiology of the psychoses, since its intravenous administration(16) produces neither exacerbations nor remissions.

Tainter(17) and his associates studied the influence of a great variety of drugs on the electrical convulsive threshold in rabbits, though unfortunately they reported no observations on the quality or intensity of the seizures. They found that in general the depressant drugs, such as dilantin and the barbiturates, raised the threshold, but that a variety of excitant agents produced quite anomalous effects—benzedrine, for example, serving to raise the threshold. Thyroxin had a striking and consistent effect in increasing the susceptibility to seizures. Contradictory

reports on the value of curare continue to appear in the literature. Cummins(18), Cash and Hoekstra(19) like it; Impastato and Almansi(8) do not. It would appear that, in spite of occasional fatalities and complications, in a suitable setting and with well-trained personnel, the risks need not be great. Rizvi(20) claims to produce mild but effective seizures with the intravenous administration of a freshly prepared five per cent solution of ammonium chloride.

BRAIN DAMAGE

A very readable discussion of the whole problem of histopathological changes in shock treatment will be found in the *Transactions of the American Neurological Association* for 1942(21, 22). No significant brain damage was found in monkeys given a regular course of electroshock treatment. Whatever changes occur in the brain are more likely to be physiological than anatomical, as the persistence of electroencephalographic changes indicates(23). If convulsions are prevented by narcosis(24). electroshock produces no brain damage. Convulsions, on the other hand, may produce petechial hemorrhages throughout the body, especially if the convulsions are severe. When electroshock was used to stun the hogs in the Chicago stockyards, so many petechial hemorrhages were found in their lungs that they were not passed by the Government meat inspectors(25).

Electronarcosis, unlike insulin coma and other forms of narcosis, is not associated with a diminished brain metabolism(4). Despite the fact that the initial amperage is generally several times stronger than that used in convulsive treatment, and in spite of repeated passage of the current for periods of several minutes to an hour or more, histological brain studies in the dog have been completely negative(26). The evidence is now reasonably conclusive that histopathological change is not common during the ordinary treatment procedure and that remissions are almost certainly not due to destruction of brain tissue.

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Geriatrics

Very little that is new from a psychiatric standpoint has come out during the past year in the line of geriatrics. There have been various articles on vitamin deficiencies and dietary deficiencies in elderly persons and the benefits of adequate diets.

The papers presented at a conference held in Washington, D. C., May 23 and 24, 1941, entitled "Mental Health in Later Maturity" have appeared in Supplement No. 168 of the Public Health Service reports. This represents a 2-day conference on the subject with many articles of value. Of particular interest are the articles: "Psychiatric Significance of Aging as a Public Health Problem" by Lawrence Kolb, "Industrial Aspects of Aging Personnel" by Lydia G. Giberson, "Psychological Guidance to Older Persons" by George Lawton, and "Psychotherapy in the Practice of Geriatrics" by Lewellys F. Barker. In fact every article in this symposium is well worth reading and the brochure is a valuable contribution to the subject. All the articles are of interest to the psychiatrist, even though a number of them come from other fields.

CHILD PSYCHIATRY. MENTAL DEFICIENCY

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The inevitable further transfer of psychiatric personnel to the armed services did not prevent the year 1943 from being remarkably productive in matters of child psychiatry and related fields. A number of important meetings, the publication of significant books and symposia, and reports of specific original studies gave concrete expression to the presence of ample activity and gratifying progress.

Meetings.—The newly established Section on the Psychopathology of Childhood, an expanded continuation of the former Section on Mental Deficiency, held its inaugural session at the Detroit convention of The American Psychiatric Association. The program, made up of papers on miscellaneous topics, included reports on research in mental deficiency, special education for the handicapped, schizophrenia in a 4-year-old boy, developmental language disability, animal pictures drawn by children, genetic factors in infantile psychoses, the transformation of the self in childhood, and the relationship of mental deficiencies, convulsive disorders, avitaminosis, and alteration of the electro-neuronal potential. The apparent diversity of the offerings furnishes an excellent illustration of the ever-widening scope of interests and curiosities under the heading of child psychiatry.

At the New York convention of the American Orthopsychiatric Association, enlightening round table and special section meetings were devoted to group therapy, the treatment of aggression, various (gestalt, eclectic and psychoanalytic) interpretations of learning, the Rorschach test, the psychology of preadolescent children in war time, objective methods in the study of children, and a number of other topics centered around personality investigation and clinical treatment.

The Woods Schools held in Baltimore an

institute on psychotherapy for the exceptional child. The majority of the discussions centered around therapeutic work with parents.

The proceedings of the important Conference on Psychiatry, arranged in the autumn of 1942 at Ann Arbor by the University of Michigan under the auspices of the McGregor Foundation, are in the process of publication and will soon be available. A great part of the program not directly related to the war dealt with the significance of psychiatric problems of children from the points of view of research, prevention and their bearing on adult maladjustments.

Books.—Several outstanding books and monographs have appeared during the year.

Levy's *Maternal Overprotection*(1) represents a major contribution to the study of the effects of parental attitudes on the development of personality and behavior. The book has grown out of articles published in *Psychiatry* between 1938 and 1942. It is a thoughtful and thorough investigation which throws much light on the dynamics of this pathogenic type of early parent-child relationship, as illustrated by 20 well-chosen case reports.

War and Children(2) by Freud and Burlingham is a summary of the authors' monthly bulletins issued from the Hampstead Nurseries in London (quoted in last year's Review of Psychiatric Progress). The book contains an eloquent and well-reasoned plea for the inclusion of mothers in nursery school planning.

The Boy Sex Offender and His Later Career(3) by Doshay is an analysis of 256 boys studied at the New York City Children's Court clinics, of whom 108 had no known involvement in any offensive behavior other than sexual, and 148 had engaged in a mixed set of offenses. The author concludes "that male juvenile sex delinquency is self-curing, provided the latent forces of shame and guilt, inherent in the moral-cultural pattern, are properly stimulated into action. Under such circumstances a boy's mental faculties are shaken to their very foundation, ... and powerful self-generating barriers against recidivism are laid down in the personality. . . . . This seems to occur regularly when a sex offense is exposed to a boy's family in the open process of a juvenile court and clinic hearing." Hence it is recommended that "juvenile sexual offenders should preferably be brought to court . . . ., in order that they may obtain lasting benefits from maximum stimulation of the self-curing potentialities of shame and guilt, albeit it may involve momentary embarrassment and inconvenience to the family."

Child Behavior and Development(4), edited by Barker, Kounin and Wright, is what its subtitle rightly claims it to be—a course of representative studies. Though not strictly "psychiatric," it can be used profitably by child psychiatrists who wish to keep themselves informed about the main trends and results of current psychologic research.

Infant and Child in the Culture of Today(5) by Gesell, Ilg, Learned and Ames is the latest of the series of volumes emanating from the Yale Clinic of Child Development. It deals with the interplay between early growth, heredity and the environmental culture, behavior changes during the various stages from embryonic existence to school age, and the relations between the vital functions of eating, sleep and elimination and the issues of self-discipline and democratic living.

Periodic Literature.—Owing to the war situation, the *Zeitschrift für Kinderforschung* and the *Zeitschrift für Kinderpsychiatrie* are not available for review. *The Nervous Child* and the *American Journal of Orthopsychiatry* continued to serve as the principal depositories for articles on child psychiatry. Other valuable contributions found their way into the pages of pediatric and psychiatric journals.

The Nervous Child published three stimulating symposia: one on stuttering (co-edited by Despert), one on affective contact disturbances (co-edited by Kanner), and one on the effects of war in children. This "quarterly journal of psychopathology, psychotherapy, mental hygiene, and guidance of the child," founded and edited by Harms in 1941, offers, in addition to original work, excellent discussions of recent publications.

Crutcher(6) presented a brief and comprehensive history of the beginnings and development of child psychiatry. Despert(7) rendered a signal service by reproducing the verbatim protocol of an individual play session at the Payne Whitney Nursery School;

she allowed the record to speak for itself, indicating both verbal and silent behavior of a child and the psychiatrist: "The text is comparable to a presentation of clinical facts which can be at any time utilized for analysis and interpretation in research and therapeutic work with children."

Arsenian's study(8) of young children from 11 to 30 months of age in an insecure situation gave experimental confirmation to clinical experiences and especially the observations of Freud and Burlingham. Children were brought into a strange situation (1) alone, (2) with their mothers, (3) first alone, then with the mother, (4) first with the mother, then alone. The author observed the infants' reactions and concluded: "The most certain provision that can be made for the security of young children faced with unstructured (unfamiliar) environments appears to be the presence of a familiar adult whose protective power is known."

A hitherto unreported type of reaction was observed by Richter(9), who described 12 children presenting "a syndrome of anxiety and mild depression with marked compulsion and obsessive manifestations" in the wake of nonspecific respiratory infections. The acute phase lasts from 2 to 3 weeks, the residual anancastic behavior subsides in 6 to 9 months. "There is spontaneous recovery," but psychotherapy attains "a more stable personality adjustment after the illness than that obtained prior to the emotional disturbance."

Kanner(10), citing 11 cases, called attention to a previously unknown profound developmental anomaly characterized by early infantile autism manifested from the beginning of life. Withdrawn aloneness, obsessive clinging to sameness, good relation to objects with complete detachment from people, and a "chopped-up" awareness of total situations are the outstanding features. All patients come from intellectual, often obsessive families. They later form, if helped to do so, a varying degree of compromise with reality.

Despert(11, 12, 13), in several articles, emphasized the psychodynamic implications of stuttering, with special attention to anxiety and "maternal neurotic attitudes in the early eating-speaking situation." Lourie(14) presented an interesting study of 20 alcoholic children ranging in age between 5 and 14 years. Lourie, Pacella and Piotrowski(15) reported a remarkable readjustment in all spheres in 21 per cent of schizophrenic children followed over a period of 4 to 11 years. Bruch(16) published another instalment of her much-quoted investigations of the psychiatric aspect of obesity in children. Levy(17), making use of his standardized play method formerly employed in his studies of sibling rivalry, analyzed "hostility patterns," "tracing through the special dynamics in the real and phantasy life of the patient."

Mental Deficiency.—A valuable contribution to the knowledge and diagnosis of porencephaly was made by De Sanctis, Green and Larkin(18). Strauss and Werner(19), in comparing the psychopathology of brain-injured children and traumatic brain-injured adults, reached the heartening conclusion that, on the whole, "methods of reeducating brain-injured children have significance for the rehabilitation of adults." Benda, Dayton and Prouty(20), in an analysis of 255 mongoloid patients, were led to feel that the condition is neither hereditary nor due to a germinal disorder but derives from a noxious factor (being on "the threshold of sterility") within the mother during gestation. The problem of the mentally retarded in the armed services was discussed by Menninger (Wm.) (21), Baier(22), and Haskell and Strauss (23). "The Army," wrote Major Baier, "is doing its utmost to preserve for those of marginal ability the privilege of contributing their share to the successful prosecution of the war in which we are all engaged."

It is pleasing to know that Edward J. Humphreys, in spite of his absorbing new duties at the Coldwater, Michigan, State Home and Training School, has found it possible to continue his able editorship of the *American Journal of Mental Deficiency*.

Other Events of the Year.—The death of Erich Benjamin in April ended the career of a man who, starting out as a pediatrician, became increasingly interested in childhood behavior and rose, before Hitler had broken out, to be a recognized leader among Central European child psychiatrists. He will be especially remembered for his emphasis on the significance of the management of the so-called period of resistance in early childhood.

Last spring, the trustees of the Devereux Schools announced the establishment of an annual award of $500 "for the most outstanding and original paper on research concerning a problem in child psychiatry." The Council of The American Psychiatric Association has accepted responsibility "for determining the conditions for the selection and for choosing the recipient each year."

Much publicity was given in 1943 to the increase in *juvenile delinquency* throughout the country. Considerable alarm was expressed by the press of the nation, over the radio, by members of the Federal Bureau of Investigation, by clergymen, judges and educators. Recently, a group of Congressmen has set out to investigate conditions responsible for the increase. Many factors were blamed as mainly responsible or contributory: the employment of mothers in industry, the greater earnings of young people, a rise in overt aggressiveness of youngsters in consequence of the war spirit, lack of adequate recreational facilities. The present alarm will serve a useful purpose if it does not spend itself in verbal ululations but is used as a basis for creating improved facilities for good mental hygiene, organized recreation and opportunities for reeducation and rehabilitation. This reviewer, in his many years of association with the Juvenile Court of Baltimore City, has always felt that every community has the rate of juvenile delinquency which it deserves. A recent book (*Young Offenders*) by Carr-Saunders, Mannheim and Rhodes(24), published in England, has definitely demonstrated that the war as such cannot be made responsible for the increase in delinquency. "In our investigation," say the authors, "we have discovered nothing which leads us to suppose either that specific new and adverse influences came into the lives of children, or that previously existing adverse influences began to exert increased effects in the years before the war."

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ELECTROENCEPHALOGRAPHY AND EPILEPSY

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ELECTROENCEPHALOGRAPHY

Much of the electroencephalographic research of the past year has centered around military problems, and has not been released for civilian publication. However, no discoveries have been made in either military or civilian research that upset established concepts relating to the electrical activity of the cortex. The technique of electroencephalography is finding increasing acceptance and application in the medical world in spite of the fact that at present adequate apparatus and trained personnel are difficult to obtain. At various draft induction centers(1, 2) and at military hospitals(3, 4), cases are being referred for electroencephalography when there is a questionable diagnosis of epilepsy, organic brain damage or psychopathic personality. In the first two conditions, the high incidence of abnormalities has been recognized for some time but only recently has attention been directed to

the significant association between electroencephalographic abnormality and psychopathic personality(5, 6, 7, 8). Jenkins and Pacella(9) report that there is no significant difference beween the EEGs of delinquent and non-delinquent boys. Gibbs, Bloomberg and Bagchi(10) found that abnormal EEGs were only twice as common in adult criminals as in a superior control group. Such studies seem to indicate that, whereas epileptic, post-encephalitic and organic types of behavior disorder are associated with abnormal EEGs, there is no high degree of correlation between criminality and electroencephalographic abnormality.

The EEG is being used with increasing success as an aid to diagnosis, prognosis and treatment in post-traumatic states(11, 12). A high correlation has been found between focal electroencephalographic abnormality and clinical evidence of localized brain damage(13). It is now generally recognized that an abnormally slow EEG is almost always obtained after severe head injury and that the abnormally slow waves tend to disappear with the passage of time after the injury (14). Failure to show improvement by the end of the third month, and particularly the continued presence of focal abnormality is an ominous sign, for it suggests that the patient will develop epilepsy(14). The presence of seizure-discharges in the EEG after the acute phase of the injury is over suggests that the patient has developed epilepsy even though clinical seizures have not made their appearance(14). Mild head injuries are not associated with electroencephalographic abnormality in the resting record (15), but patients with mild head injuries are likely to show an abnormal increase in amplitude and slowing with overventilation (4). In general, the finding of an electroencephalographic focus is evidence that the disorder is symptomatic or acquired rather than idiopathic (or hereditary)(13, 16). The inverse proposition has been stated by Heppenstall and Hill(16), that generalized (i.e., non-focal) electroencephalographic abnormality in the chronic post-traumatic state is evidence of an idiopathic or constitutional defect. Though supported by a study of family histories, this statement appears somewhat extreme, for 41 per cent of all post-traumatic epileptics show generalized electroencephalographic abnormality(14).

Notwithstanding the statement by Finley and Dynes(17) that no abnormalities in the EEG are specific for epilepsy, Gibbs, Lennox and Gibbs(18) claim that the paroxysmal discharges that accompany the three major types of clinical seizures are so commonly encountered in epilepsy and so rarely encountered in cases unassociated with epilepsy that they can be considered specific for that condition. The clash in opinion appears to arise from a difference in clinical and electroencephalographic classifications. The correlations that Gibbs, Lennox and Gibbs(18) report are based on large numbers of cases (1,000 normals, 1,000 epileptics and 800 neuropsychiatric patients without epilepsy). These large series are uniformly classified and provide a fairly solid statistical base for electroencephalographic diagnosis. However, if other workers are to make full use of these data, they will have to use identical classifications. Because the response to over-ventilation varies widely with age among both normals and epileptics(19, 20), this test has not been included as a standard clinical procedure in some electroencephalographic laboratories. Data are now available(21), giving the comparative incidence of different types of response to overbreathing in epileptics and controls at different age levels.

As yet no practically valuable correlation has been found between the EEG and the major psychoses. Pauline Davis has reported that the EEGs of manic-depressive and schizophrenic patients differ(22) and that schizophrenic patients tend to show choppy activity(23), but it seems that this choppy activity is exceedingly difficult to differentiate from the type of activity obtained from an attentive and somewhat tense normal person. Cohn and Katzenelenbogen(24) report no significant difference between the EEGs of schizophrenic patients who did and did not show a change in their mutism with administration of sodium amytal. A slight positive lead has been turned up by Rubin (25) who reports that schizophrenics are more resistent than non-psychotic subjects to overventilation. This observation is in

line with the present reviewers' experience and seems to warrant further investigation. The effects of raising and lowering the carbon dioxide concentration of the blood has been studied in schizophrenics and epileptics by Kornmuller(26), but he merely concludes that high carbon dioxide will abolish abnormal rhythms in both.

Hoch(27) finds that there is no genetic relationship between schizophrenia and epilepsy. When considering why some cases of schizophrenia show epileptoid types of EEG, he points out that fundamentally different etiologies can give rise to similar clinical pictures and that an abnormal EEG in a schizophrenic creates a presumption that the condition is symptomatic schizophrenia. This line of reasoning is the same as that followed by Gibbs, Lennox and Gibbs (18) in explaining their erroneous conclusion that similar types of abnormality are encountered in schizophrenics and epileptics. They believe that significant similarities are encountered only in cases of schizophrenia with associated epilepsy or epileptoid features and that such are atypical cases of schizophrenia. Likewise, in reporting a high incidence of electroencephalograhic abnormality in children with schizophrenic-like psychoses, Lourie, Pacella and Piotrowski(28) conclude that their cases were associated with too large a component of organic pathology to be classed as idiopathic schizophrenia and are more properly regarded as symptomatic schizophrenia. For the same reason, Diethelm and Simons(29) believe that cases with attacks of confusion and feelings of unreality which at present are commonly classified as schizophrenic should instead be classified as epileptic.

The effects of various types of shock treatment on the EEG have been studied intensively(30-36). Boshes and his co-workers(33) report that the slow activity which appears after an electrically-induced convulsion is maximal in the cortex underlying the electrodes. They claim that unless slowing is obtained there is no therapeutic benefit; if, however, the slowing is extreme, untoward symptoms are likely to develop, a point which is in accord with the previous observations of Proctor and Goodwin(31).

On the basis of studies on eclamptic patients and their near relatives, Rosenbaum and Maltby(37) have concluded that there is a relationship between eclampsia and epilepsy. In the later months of pregnancy, a progressive slowing of the EEG occurs with a rebound to normal or faster than normal soon after parturition(38). Changes like those encountered in pregnancy are also commonly observed in association with ovulation and menstruation(39). It should not be assumed, however, that on the basis of present evidence a clear-cut relationship exists between epilepsy and eclampsia or between epilepsy and any of the normal or abnormal concomitants of the reproductive cycle. A recent study by Forster, Roseman and Gibbs (40) has shown that in carotid sinus syncope there is usually little or no electroencephalographic abnormality. Just before and during orthostatic syncope, however, higher voltage slow waves are a prominent feature of the EEG. Significant but non-specific electroencephalographic abnormality has been reported by Engel and Margolin(41) in Addison's disease and in a wide variety of clinical conditions that are associated with cerebral anoxia or disordered carbohydrate metabolism. According to Rubin and Bowman(42), patients with peptic ulcers have dominant alpha records three and one half times as commonly as control subjects. Although Strauss and Selinsky(43) could find no direct correlation between migraine and electroencephalographic abnormality, they report that five out of 20 patients with migraine showed an abnormal response to overventilation during the headache but not at other times.

A significantly greater unilateral blocking of alpha activity in the left hemisphere of stutterers compared with normal persons has been reported by Douglass(44) and confirmed by Knott and Tjossem(45). Lemere (46) reports that it is possible by means of the electroencephalograph to differentiate true from false blindness. However, the person being studied must have some alpha activity in his resting record and precautions must be taken to avoid other types of stimulation when the visual stimulus is applied. Lundholm and Lowenbach(47) agree with

Lemere and conclude from their study on hypnosis that "the electrical activity of the cortex is not affected by hypnotic modification of seeing or hearing."

It is generally agreed at present that a high degree of correlation is found between the pneumoencephalogram and the EEG in cases with ventricular displacement caused by space-consuming lesions, porencephalic cysts or hydrocephalus(48). However, in the material studied by Trowbridge and Finley(49) and by Semrad and Finley(50), no high degree of correlation was found between the EEG and the pneumoencephalogram. Most of the pneumoencephalographic changes in their series were associated with chronic atrophy.

Two new instruments have been described that may prove valuable. Grey Walter(51) has developed an analyzer that superimposes on the EEG a record of the alternating current voltage in four frequency bands. It is superior to the Grass analyzer in that it makes immediately available a plot of frequency against amplitude. It registers frequency, however in terms of fairly coarse bands instead of in terms of fractions of a cycle per second as does the Grass analyzer. An encephalophone has been described by Furth and Beevers(52). With this instrument the ear rather than the eye is used to study the electrical activity of the cortex. Although the ear is a highly efficient mechanism for analyzing frequencies and frequency differences, general experience has indicated that for scientific purposes a visible record is superior to an audible one.

Epilepsy

An important addition to books which instruct patients and their relatives is one entitled "Convulsive Seizures"(53). Even in these labor-hungry days, epileptics find it difficult to gain employment because of public ignorance and labor compensation laws. The occupational histories and the physical fitness of more than 1,000 epileptics have been studied(54). Service men with war-induced traumatic epilepsy should be given the same opportunity for rehabilitation as the non-epileptic wounded(55). The problem of automobile driving has received too little attention. In the Detroit Traffic Division of the Recorder's Court, 20 of the 2,000 cases that came before the Court were diagnosed as epileptic. Five or six years without medication or seizures are required before epileptics are licensed to drive(56). The pitressin test was used in 87 adults and in 87 per cent of the cases results were in agreement with the subsequent history of the patient(57). The cause or causes of convulsions were studied in 224 children. In six, seizures occurred during anesthesia; nine had tetany(58). That the precentral cortex exercises some control over sweating is deduced from the case of a patient who was found to have an oligodendroglioma(59). In 13 patients with one-sided atrophy of the body, a lesion was found in the contralateral, precentral or postcentral cortex. In all but one of 14 cases without bodily assymmetry, the cerebral lesions were elsewhere. Lesions acquired in the first two years are most influential in causing atrophy(60). The incidence of tuberous sclerosis in institutions for the epileptic is 0.6 per cent. In the Indiana State Colony, 22 cases were studied very carefully, both clinically and, in the case of three, pathologically(61). Of 75,000 anesthesias, convulsions occurred in 12 cases. Anoxia is believed to be the chief factor(62).

As for additional information derived from shock therapy, in six cases the preliminary administration of 10 mg. of amphetamine sulphate reduced the convulsive threshold (63). In schizophrenic patients, injection of from 0.28 to 0.5 gm. of acetylcholine produced convulsions together with arrest of the heart(34). Differential diagnoses of epilepsy may be obtained by means of metrazol injections. Among 38 epileptic patients, 92 per cent had a convulsion with 3 cc. or less, whereas 18 non-epileptics required more than this amount(64).

Among deteriorated epileptic patients, poorly developed, tortuous and asymmetrical loops were unusually prominent, especially among female patients(65). In a group of feeble-minded patients, 41 per cent had convulsions, all of whom had brain pathology (66). Three patients who had focal seizures and an electroencephalographic focus were

found at autopsy to have cerebral calcifications with functioning capillaries in the calcified areas. The viable neurones in this area were judged to be the source of the seizures (67).

Various means of preventing as well as treating epilepsy have been discussed(68). Drug therapy has been enlarged by the use of azosulfamide which causes acidosis but this may not explain the beneficial action of this drug on seizures(69). Dilantin sodium still received favorable reports in institutional as well as in other cases(70, 71). Administration of dl-glutamic acid hydrochloride as an adjunct to other therapy seems to have a beneficial effect in the control of petit mal(72). Seizures induced by metrazol or by electric shock, illogical though it is, have been reported as decreasing subsequent spontaneous seizures. It is argued that the improvement is due to the increase of the convulsive threshold which takes place after a seizure. Breaking up of an epileptic cloudy state by means of an artificial convulsion is said to be of value(73). The 1943 issue of *Epilepsia* contains references, usually with abstracts, of 470 recent articles on epilepsy (74).

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BIOCHEMISTRY, ENDOCRINOLOGY AND NEUROPATHOLOGY

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The war has greatly reduced laboratory studies in psychiatry. Clinical therapeutic trials of endocrine preparations continue to be reported, but no fundamental investigative work in endocrinology of major importance to psychiatry has come to this reviewer's attention during the year.

In the field of neuropathology, two cooperating groups of investigators in Michigan have reported studies of convulsive disorders. Dickerson(1) reports the abnormalities found in the gross and microscopic examinations of the brains obtained at 150 consecutive autopsies at the Caro State Hospital for Epileptics. Waggoner, Lowenberg and Howell(2), in a report of some convulsive disorders associated with very gross brain pathology, consider it "reasonable to believe that the occurrence of convulsive attacks in patients with extensive lesions of the brain is linked with a latent convulsive diathesis." Ross and Dickerson (3) in a report on 25 patients with tuberous sclerosis, including three autopsy reports, adduce evidence that tuberous sclerosis is a developmental tissue dysplasia. They also state, "the chief diagnostic roentgenographic change, that of patchy zones of increased density in the skull, is conclusively shown to be located in the calvarium."

Metabolic studies on epileptic patients receiving azosulfamide and phenobarbital have been reported by Cohen, Coombs, Cobb and Talbott(4), suggesting the importance of a positive potassium balance in relation to the anticonvulsant effect.

The distribution of electrolytes between cells and serum in the blood of schizophrenic patients has been studied by Katzenelbogen and Snyder(5), who report a slight elevation of serum potassium in 5 out of 29 cases, and a slight elevation of the chloride and inorganic phosphorus contents of the cells in only 1 case each.

In a general discussion of prognostic considerations, Gildea and Man(6) report that high values for serum cholesterol and for serum fatty acids are indicators of good capacity for recovery from manic-depressive and schizophrenic reactions.

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HEREDITY AND EUGENICS

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The effect of war conditions on the advancement of genetics in neuropsychiatry has been somewhat paradoxical. While genetic research has followed the downward trend of sciences which serve no immediate military purpose, the mass experiment of the war has necessarily provoked an increased general interest in the genetic and eugenic problems associated with mental disease. It is reasonable to expect that the enormous tasks of social readjustment confronting all civilized nations after this war will force the psychiatric profession to take a full share in the reconstruction of a saner and more realistic world. Opportunistic ideologies do not alter the fact that efficient populations and stable families are built on similar biological principles.

The important rôle played by biological selective factors in the incidence of inherited mental disorders as well as in the preservation of superior innate qualities was emphasized in recent publications of Huntington, Penrose, and Egger. The history of Iceland was chosen by Huntington as an example of what happens when people of sufficiently high capacities settle in a land of scanty opportunities and learn to utilize "those processes of eugenic selection by which all nations may rise to a similar level." Penrose's objective was to demonstrate that significant variations in onset and sex distribution of hereditary mental diseases are the result of progressive modification by natural selection. According to this theory, the female carriers of dominant and late-developing anomalies are usually more severely affected than the males, because natural selection tends to delay their onset until the end of the reproductive period which lasts longer in males than in females; while in recessive disorders of early onset the females are likely to be less severely affected than the males, because mildly affected females are more likely to become parents than are mildly affected males. Irrespective of certain doubts as to the general applicability of this interpretation, which disregards the failure of either human sex to use the major part of its reproductive period for practical procreative purposes, the theory may prove to be helpful especially in the understanding of involutional and senile psychoses where the need for basic genetic information is still the greatest.

Egger reported that the schizophrenia rate for a representative group of marriage partners of schizophrenic index cases was found to be twice as high as that for a comparable general population. He thereby substantiated a theory offered by Kallmann and Reisner as partial explanation for their similar findings in mates of tuberculous patients, namely, that marriage to persons displaying a chronic disease such as reinfection tuberculosis statistically represents a definite selective factor regarding the probability of being affected by the same disease. His observations were also in line with the contention of Kallmann and Barrera that the predisposition to schizophrenia is determined by a recessive unit character whose phenotypical manifestations are modified by the graded effects of a multifactorial resistance mechanism. Valuable additional evidence in support of this theory

was contributed by recent investigations of Schulz and Wyrsch.

The present state of information about the inheritance of manic-depressive psychosis was carefully reviewed by Luxenburger in a new German textbook, "Hereditary Diseases." Various difficulties in the genetic interpretation of insufficient available data are reflected in his conclusion that the transmission of the manic-depressive genotype apparently follows a more complicated pattern than that of simple dominance or recessiveness. There is as yet no agreement on the part played by environmental factors in the precipitation of manic-depressive manifestations, although most investigators are inclined to consider this part as less significant than it appears to be in the precipitation of schizophrenia. The consensus on involutional psychoses is that genetically they do not belong in the manic-depressive group proper (Bischof, Brockhausen).

The specific nature of the individual genotypes for the main entities of endogenous mental disease was stressed by studies which disproved the existence of direct genetic relationships between schizophrenia and epilepsy (Hoch), between schizophrenia and manic-depressive psychosis (Schulz), and between schizophrenia and mental deficiency (Kallmann, Barrera, Hoch and Kelley). Similar but probably more fluid multifactor differences in specificity were claimed by Slater to distinguish the various forms of what he called the neurotic constitution. In his analysis of 2000 neurotic soldiers, obsessional states were found to be "most firmly rooted in a basis of specific predisposition." Anxiety states were classified by him as "most directly related to exogenic factors," although every neurosis represents in his opinion a failure of adaptation in a biologically inadequate and, therefore, socially inefficient person.

A specific inherited susceptibility was even assumed by Lemere and his associates to be a causative factor in chronic alcoholism, in the sense of some tissue weakness characterized by an abnormal attraction to the effects of alcohol. In an investigation of the kinships of 500 alcoholics, the frequency of alcoholism was revealed to be four times greater in the families of excessive drinkers than in the families of normal drinkers, although total abstinence was considered an equivalent of alcoholism. However, the conclusions drawn from this study merely indicated the need for clearer distinctions between the specific effects of inherited single-factor susceptibilities and their non-specific modifications by constitutional defense mechanisms and the interaction of environmental influences. Among the psychiatrists who have recognized this need in some of its basic implications is Kretschmer whose now nearly classical monograph, "Physique and Character," recently appeared in a much improved fifteenth edition.

In the field of mental deficiency, genetic workers were helpful in delineating special types of somatic dysfunction associated with defective development of intelligence. The genealogical observations in 57 cases of gargoylism distributed among 40 sibships were considered by Halperin and Curtis as indicative of the operation of a single recessive autosomal gene which produces a generalized lipoidosis with low-grade mental defect, neuromuscular incoordination and grotesque facial appearance. The familial occurrence of a syndrome characterized by an association of primary eunuchoidism, color blindness, anosmia and mental deficiency was described by Kallmann, Schonfeld and Barrera and explained on the basis of a sex-chromosomal aberration. The possibility of a genetic etiology for tower skull was excluded by extensive family studies of Jensch.

In regard to "simple" mental deficiency, the theory of uniform recessive inheritance was upheld by Juda and Brugger, but questioned by Roberts, who emphasized the need for a dividing line at the I Q level of 45. According to his concepts, only certain rare types of low-grade deficiency are determined by single recessive genes, while all high-grade and many low-grade defects were attributed by him to the action of any one of numerous dominant or recessive genes.

The chief obstacles to a more satisfactory progress in the study of mental abnormality from the genetic standpoint were seen by Hogben in the limited number of reliable quantitative tests for recording the complex aspects of intelligent behavior and social adjustment, and in a lop-sided view of the prac-

tical value of such investigations. He also warned against minimizing difficulties which can be overcome only by the promotion of larger scale field work than has as yet been undertaken, and by the discussion of the results of such inquiries "in a less doctrinaire temper."

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EXTRAMURAL PSYCHIATRY AND THE AFFILIATED SERVICES[1]

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All who enter into the lives of the psychiatric patient on a professional (paid) basis with the design of helping him overcome his handicap, can be spoken of as treating him or as participating in his treatment, as contrasted with his relatives, friends, business associates, legal advisers, sometimes his clergyman and others who influence him for other purposes or merely constitute a part of his affective setting. However, in this composite of therapeutic influence certain elements crystallize out as techniques and develop a professional or quasi-professional status. Psychiatric nursing, occupational therapy and psychiatric social work are such elements. The first two are today primarily expressions of intramural psychiatry, the third is best developed as an extramural service. Extramural programs have been eliminated in many states since the start of the war; still some important progress is taking place extramurally. In Illinois and New York efforts have been made through extramural developments to combat some of the overcrowding of hospitals. Reviews of in-patients have been made to discover untouched

[1] Mary E. Corcoran—Review of Psychiatric Nursing; Beatrice D. Wade—Review of Occupational Therapy; Maida H. Solomon—Review of Psychiatric Social Work.

possibilities for parole and family care and unexpected possibilities have been revealed. The actual effecting of these services is balked by shortages of supervisory personnel and local facilities, but a foundation has been laid for progress when the shortage of manpower is lessened. Out-patient service has on the other hand developed extensively in the army.

Psychiatric Nursing

Progress in psychiatric nursing is especially demonstrated in the efforts being made to obtain experience in psychiatric nursing for students in their basic course.

Acceleration of programs of nursing education brought about by the war and the government's nurse cadet program of augmentation and speed up has resulted in adjustment of some affiliate courses from four or three months to shorter periods. This will limit the usefulness of the affiliation and may prove detrimental since it is usually in the third month and after, that the student nurses feels at home in her psychiatric surroundings.

In June, 1943, 100,486 student nurses were enrolled in 1297 schools throughout the country. Of these 1409 were in 38 schools conducted by mental hospitals and approved by the boards of nurse examiners in their respective states. Sixteen of the 38 schools conducted by mental hospitals are in one state, four in another, three in one state, two in three states, and nine states have one school. The northeast section of the United States has all but eight of the schools listed.

Of the 1297 schools, 618 provide experience in psychiatric nursing to all student nurses, and 57 others give some students experience.

Interest in the nursing care of psychiatric patients is stimulated by the fact that nurses in military service find that the wounded service men need something more than the traditional skilled treatment(1). Ten navy nurses are accordingly taking a course in psychiatric nursing at St. Elizabeths. Others, and perhaps a larger group, will replace them when this first group completes the course.

As its first venture in teaching student nurses, the U. S. Public Health Service at its Hospital in Lexington, Ky., has established a nine weeks affiliate course for student nurses from general hospitals. Veterans Facilities caring for psychotic patients have indicated their willingness to participate in education of members of the student nurse cadet corps by offering them teaching and experience.

At Catholic University in the District of Columbia a post-graduate course for nurse administrators and instructors has been established. The students will spend four months at St. Elizabeths during which they will have advanced teaching and supervised experience in psychiatric nursing.

A course for affiliating student nurses has been established at Norristown State Hospital, Pennsylvania, and several other state hospitals have plans made to establish courses(2),[2] but are delayed by their difficulty in finding suitable nurse instructors. The Board of Nurse Examiners, in Michigan, is promoting affiliate courses so that all student nurses may have experience in psychiatry in their basic course.

Selective Service has assigned more than 1500 conscientious objectors to state hospitals caring for mental patients. In the majority of cases the men are doing good work. What they lack in experience is compensated for in most instances by their sincerity and diligence. To hospitals depleted of their staff by the military service and industry, these substitutes are very beneficial.

Occupational Therapy

Many developments have taken place in occupational therapy during the year, aided by leading psychiatrists whose profession has so faithfully supported this adjunct therapy since the day that Dr. Adolf Myer aided the late Eleanor Clarke Slagle in its establishment(1). The American Psychiatric Association established a Committee on Occupational Therapy which will aid this young profession in its further development.

The serious effort made by the profession to meet the exigencies of war and rehabilitation as summarized by Elwood(2) include new schools, the acceleration of courses and

[2] Marlboro State Hospital, Marlboro, N. J.; Ypsilanti State Hospital, Ypsilanti, Mich.; Philadelphia State Hospital (Byberry), Philadelphia, Penn., are institutions being urged to establish affiliate courses. When qualified nurse instructors and administrators to establish the teaching programs and necessary supervision are obtained, courses will be started.

the organization of courses under Red Cross. A 16-month emergency course for candidates with advanced standing will result in an anticipated increase of 300 per cent in the graduates of 1944.

The Committee on Occupational Therapy of the National Research Council has recommended that provisions be made for occupational therapy in the hospitals of the fighting forces, and it prepared a manual(3) for the therapist as well as the medical personnel who direct the treatment. The recent appointment of a superintendent of occupational therapy in the Army General Hospital should facilitate the recruitment of some 350 therapists needed immediately and the 1000 sought for the service in 1945. The naval hospitals are procuring therapists through enlistment in the WAVES.

The Council on Medical Education in Hospitals of the American Medical Association published a revision of the "Essentials of an Acceptable School of Occupational Therapy"(4) which emphasizes the desirability of a college affiliation and flexibility of curriculum. Two courses under the administration of colleges of medicine, six additional ones in universities and nine in colleges have been established since 1941.

Tangible evidence of the therapeutic use of varied physical and mental activity is noted in the literature. Schreiber(5) points out the value of music, Price and Nagle(6) relate their experience in the use of dramatics, and therapists have gained more knowledge in psycho-dramatic therapy. Modern and folk dancing are being used effectively as resocializing agencies. Social clubs as noted by Bierer(7) create a normal atmosphere by encouraging spontaneous and natural reactions. A scientific presentation of the effect of color on psychiatric patients was made by Goldstein(8). Major Merrill Moore(9) advocated a study of conchology as a medium of therapy. According to Blackman(10), the therapeutic value is afforded the patient through contributions to a newspaper whereby he wins social sanction.

Whatever the medium, the fundamental aim is to utilize group activity, to encourage normal reactions and relationships. Within groups each patient may be individualized through interviews(11). Slavson's "Introduction to Group Therapy"(12) presents very effectively the fundamental principles which appear to be similar to those utilized by many occupational therapists. Solomon(13) outlines some nine specific psychiatric orders applicable to the treatment of as many psychological reactions whereby a therapist may carry out a treatment with comparative precision. Garrison(14) feels that occupational therapy should be used as a means of preparing the patient under shock treatment for return to normalcy and continuing through convalescence as a precaution against relapse. Morgan(15) tells how a patient is retained in a psychiatric outpatient department for six or more hours each day for study and observation through the use of resocializing activities. Rehabilitation was thus facilitated. Interest in the habit training of deteriorated patients and in correlating therapeutic services are embodied in reorganization plans in Illinois(16) and Texas. Preston(17) states that occupational therapy should provide successive steps whereby the patient will be gradually led outside the hospital into the community. One of the most important developments of the year was the inclusion of the mentally handicapped patient in the federal rehabilitation program in which accomplishment the Occupational Therapy Association played a part. Stevenson(18) advised that psychiatric officials get in touch with the rehabilitation commission of their respective states in order that the programs worked out may include service to the mentally handicapped. Prevocational training might be inaugurated either in the hospital or in sheltered work shops. Hudson(19) points out that every psychiatric worker should make a maximum contribution to the preparation of the patient previous to his referral for rehabilitation.

Throughout the symposium "Rehabilitation of the War Injured"(20), there are valuable discussions of occupational therapy in England and the United States.

The recently formulated Baruch Committee on Physical Medicine will make a survey of the fields of physical and occupational therapy to find in what way physical medicine can contribute most in the care of soldiers and sailors.

Psychiatric Social Work

Literature in the field of psychiatric social work has reflected the consistent growth in functions and technique in the two areas with which the field is associated, psychiatry and social work. Significant articles dealing with psychiatric social work problems, written by psychiatric social workers or psychiatrists have chiefly appeared in the case work magazines and psychiatric journals.

The period has been marked by a greatly increased but still unmet demand for trained personnel, both in a wide variety of civilian positions and in war psychiatry. Articles in the literature to be considered here are related to civilian psychiatric social work, to the growing and new phases of military psychiatric social work and finally to certain challenging developments which the war has emphasized.

Family care as a treatment procedure for mental hospital patients(1), social services to paroled patients or adult patients of psychiatric clinics(2), follow-up of the progress of feebleminded children treated in an out patient department(3), emotional tensions of children in child guidance clinics(4), the use of play in the treatment of young children(5) are problems which continue to challenge the skills and interests of psychiatric social workers in public and private hospitals and clinics.

The acute need for trained workers to give help to troubled individuals, the opportunities for professional education and the most pressing and "war essential" areas of practice are affirmed by the American Association of Psychiatric Social Workers both as an individual professional organization(6, 7), and in cooperation with other professional associations through the War Time Committee on Personnel in the Social Services(8).

Newer developments in the field have been stimulated by the war and promise significant advances for many years to come. The Red Cross early recognized the need for trained personnel by establishing a continuing scholarship plan at the schools offering accepted graduate curricula in psychiatric social work(9). Psychiatric social workers are now utilized in the screening processes at both selective service(10) and induction levels and serve on the Social Service Advisory Committee to Selective Service(11). Red Cross psychiatric social workers function in army and navy hospitals(12, 13), at naval training stations(14), in 40 mental hygiene units at replacement training centres (15) and in rehabilitation camps for prisoners. The recent recognition of psychiatric social work by the army in its establishment of No. S.S.N.263 for psychiatric social workers (military) means that qualified inductees may request army placements as psychiatric social workers—"psychiatric social work in military terms involves a direct case work job under psychiatric leadership in the settings within which psychiatrists function"(16).

New frontiers glimpsed here and there include provocative opportunities for psychiatric social workers as members of the clinic teams in rural areas(17) or as workers within the psychosomatic field; the use of psychiatric social work skills in case work counseling or employee counseling in day nurseries, industry, and in the field of juvenile delinquency; the relation of group therapy to psychiatric case work(18) and the war and post war values of short time case work(19).

A most important imminent challenge to the psychiatric social worker is her share in rehabilitation plans for the returned veterans and increased clinical facilities for civilian rehabilitation(20, 21).

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MILITARY, AVIATION, ADMINISTRATIVE AND FORENSIC PSYCHIATRY

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Military Psychiatry

As might well be expected, the size of the bibliography on this topic continues to reach new heights—236 items are reported for 1943. Much of the material now deals with the results of actual experience in the field, and is therefore increasingly useful.

In the field of selection, Rowntree, McGill and Edwards(1) report the results of the examination of about 45,000 draftees 18 and 19 years old. Mental disorder was second in order of importance as a cause of rejection—27 per 1000. Wittson, Harris *et al.*(2) describe the naval program for the selection of recruits. Williams(3) reports on the experience of an Army Medical Board from November 1940 to September 1942. He makes several recommendations, some of which have since been put into practice. Helgesson(4) presents an excellent over-all statement of the place of psychiatry in the Navy. Hunt and Older(5) give a brief discussion of the detection of malingering through psychometric tests. A general review of psychiatry in the British Army is presented by Brigadier Rees(6).

Two particularly interesting articles in the field of prophylaxis are those of Freedman(7) on the army mental hygiene unit developed by him and since widely copied, and by Kraines(8) on the adviser system, a method of mass prophylaxis in which he has been especially successful.

Several reports along descriptive lines may be mentioned. E. H. Parsons(9) discusses 200 relatively early (1941-March 1942) cases, with an excellent brief historical sketch of military psychiatry. Interestingly, he then found (as we still find) that the characteristic neurosis was anxiety with depression, the typical psychosis schizophrenic, and that traumatic neurological disorders were prominent. Sagebiel and Bird(10) present a study of the psychiatric casualties received at a naval base hospital in the Solomons area. They found 31% anxiety neurosis, 12% hysteria, 15% psychosis and 32% concussion syndrome. Sinclair(11) reports on 207 cases of war neurosis occurring in Tobruk. He found conversion hysteria rare, with over one-half of the patients (132) suffering from anxiety states. He stresses the importance of accurate diagnosis and early treatment. Sixty per cent were returned to their units for front line service. Raines and Kolb *fils*(12) present an excellent résumé with case histories on "combat fatigue" and war neurosis, which they evidently consider synonymous (space does not permit the discussion here of nosologic neologisms!). They look upon symptoms of conversion hysteria and anxiety without startle as being indicative of a poor prognosis. They advocate rest and desensitization. Ebaugh and his associates(13) report a study of 100 army psychiatric casualties and a like number of non-casualty enlisted men, suggesting certain signs as of prognostic value as to psychiatric breakdown. Farrell and Kaufman(14) compile an excellent compendium of neuropsychiatry in the army. Rodger(15) reports on 83 cases of effort syndrome occurring among British troops in Iceland. Ruesch and Moore(16) discuss the measurement of intellectual functions in the acute stage of head injury.

In the field of psychodynamics may be mentioned an article by Fairbairn(17) on the nature and significance of the war neuroses. He emphasizes the importance of separation-anxiety and a deterioration of the sense of duty; he looks on the problem as largely one of morale. Maskin and Altman(18) discuss the psychological factors in the transition from civilian to soldier.

Treatment is discussed by Porter, Novak and Lemkau(19), emphasizing the importance of the medical officer's not neglecting this aspect of his duty. Altman(20) presents the use of sodium amytal as an adjuvant to suggestive therapy of the neuroses.

[1] Military, Administrative and Forensic Psychiatry—Dr. Overholser; Aviation Psychiatry—Dr. Wortis.

Morale is not neglected. Sillman(21) emphasizes its importance in offensive warfare, and MacCurdy(22) has written an excellent volume on the subject(22). Mercier and Despert(23) consider the psychological effects of war on French children, as noted during the fighting and for a year of occupation.

A symposium on the unfit—how to exclude them and how to use them—is reported in *Psychosomatic Medicine* for October 1943 (5: 323). The entire issue of the AMERICAN JOURNAL OF PSYCHIATRY for July 1943 (100: 11-143) is devoted to the excellent symposia on psychiatry in the army, navy and merchant marine presented at the Detroit meeting.

Mira's Salmon Lectures(24) constitute an arresting presentation of military psychiatry by one who had much experience in the prelude to World War II. Sladen(25) has just edited a large volume with chapters by many of the luminaries in the psychiatric firmament. And finally, an excellent little volume "Psychology for the Fighting Man" has been prepared as a "pocket book" by the National Research Council and Science Service, at a nominal cost, for the laity, and especially for the military. This book should have a wide distribution—it will do much to dispel many of the fogs anent psychological problems which now exist in the soldier's mind—and in that of some of his officers, even high ones!

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AVIATION PSYCHIATRY

Almost all important new developments in the field of aviation psychiatry involve restricted material and reports. The following summary is therefore based only on published data. Though all problems in aviation psychiatry are related to each other, they fall into four chief groups, namely: (1) psychological symptoms of anoxia, (2) pilot fatigue, (3) bends, and (4) problems of aviation morale. The most important acute limiting factors to high altitude flight are the cerebral and psychological changes of anoxia, and the pain and disability of bends. The chief chronic limiting factors to efficiency of flyers are pilot fatigue and morale.

No one single psychometric test is a reliable criterion for altitude tolerance(1) because of the highly complex and varied factors and functions involved in actual military aviation. Clinical observation of the more highly integral functions should not be neglected for the sake of measurable psychometric data of discreet functions. In short test flights, especially, a considerable expenditure of interest and energy may sometimes more than make up for the impairment of cerebral function under anoxia. The operational ceiling is a complex function of the nature of the mission, the age and efficiency of the flyer or crew, the duration of the mission, etc.

The simple mechanical view that bends are due merely to expansion of bubbles in vital tissue does not adequately explain all the phenomena involved. There is little doubt that much of the work being done is based upon this interest in additional factors. Meanwhile denitrogenation by breathing pure oxygen continues to be the chief safeguard.

Altitude tolerance is limited mainly by low oxygen tension, but it would be a mistake to conclude that arterial saturation is the only crucial factor in altitude tolerance. Several important compensatory mechanisms are activated by the low oxygen tensions, of which increased cardiac output and increased cerebral circulation are most important. Anoxia

tends to dilate cerebral vessels, low carbon dioxide tension constricts them(2, 3). Hyperventilation(4) at high altitudes thus involves two contradictory mechanisms, and it is by no means definitely known at which point hyperventilation ceases to aid, and begins to impair, cerebral efficiency under anoxia.

The psychological interests of many recent investigators of the problem of pilot fatigue tend to obscure the fact that continued or repeated exposure to anoxia may well produce the typical irritability and fatigue even under relatively innocuous conditions(5), though noise, strain and danger(6) are unquestionably involved. The rough-and-ready technique of sending nervous flyers back on a mission may work in some cases, and cannot be regarded as absurd, but the alternative of rest and respite probably yields richer returns. The success of the rest treatment of torpedoed seamen(7) suggests the possibility of using similar methods for dealing with flyers, for prevention as well as cure.

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Administrative Psychiatry

Under this general title may be found at least 39 references to articles published during 1943, on subjects ranging from boarding homes to food waste. Several of the articles stand out as of general interest to the readers of this summary. David A. Boyd(1) discusses the mental hygiene problems of student nurses, citing a number of cases and urging a counselor service. Nichols(2) points out the value of the state hospital as a source of man power, describing a project for the use of patients in local orchards. Worthing(3) presents a suggestion for the concentration of tuberculous mental patients as a means of securing better medical care, rather than following the present plan by which each hospital cares for its own tuberculous. Weinberg and Goldstein(4) present data on the care of psychotic patients in general hospitals and sanitariums, with the suggestion that this trend affects the mental hospital statistics adversely as regards especially the results of shock therapy. A symposium on the provision of psychiatric services to rural areas is fully reported in the *Amer. J. of Orthopsychiatry* for April 1943 (**8**: 297). The statement is made that in 24 states or territories some type of mental hygiene—public health activity is going on, but that *less than 1 per cent* of public health budgets in the United States are spent for mental hygiene.

The dangers attendant upon the use of sodium fluoride as a roach exterminator are emphasized in an article by Lidbeck, Hill and Beeman(5) describing the unfortunate episode at a state hospital in which 47 patients died as a result of the accidental use of sodium fluoride in place of powdered milk. Ruth R. White(6) makes a strong plea for the extension of social service in mental hospitals as a means of returning more patients to the community.

Finally, the passage of the Bolton Act (Public 74, Approved June 15, 1943), providing for direct Federal aid to schools of nursing and scholarships for student nurses, should have a revivifying effect upon a number of training schools operated by state hospitals, and may well result in the reestablishment of others closed in less emergent times by the zeal of some of the nursing associations.

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Forensic Psychiatry

The most significant work in this field in 1943 consists in the extensive and thoroughgoing symposium entitled "Scientific Proof and Relations of Law and Medicine." Under the editorship of Dr. Hubert W. Smith of Harvard Medical School, 53 papers have been prepared by medical and legal authors, and published simultaneously in a medical and a law periodical. Among the articles of particular interest to psychiatrists may be mentioned Ebaugh and Brosin's(1) on traumatic psychoses, Merritt and Solomon's(2) on the relation of trauma to syphilis of the nervous system, Lennox's(3) on amnesia, Myerson's(4) on sterilization, and W. E. McCurdy's(5) on insanity as a ground for annulment or divorce. The symposium is expected to appear in two volumes early in 1944. Other articles of interest include one by Selling(6) on convulsive disorders and the automobile driver and by Kaufman(7) on formal psychiatric examinations in the criminal court. Typical of a growing dissatisfaction on the part of lawyers with the unpsychiatric legal "tests" may be mentioned an unsigned article in the *Solicitor,* a London law periodical, which refers to the M'Naughten Rules as a "primitive approach" and "based upon the completely exploded view that the brain is divisible into several compartments." Verily, the world do move!

The year was rich in legislation, at least 33 state legislatures being in session. South Dakota entered the column of sterilization states (Ch. 112). Connecticut gave legal status to the American Board of Psychiatry and Neurology by requiring a diploma from that board as an alternative requirement for receiving a license to operate a private mental hospital (Ch. 132). Illinois made progress in simplifying its commitment laws (Ch. 316). Massachusetts still further tightened the relations between the courts and psychiatry by requiring that in cases of alleged rape or sodomy the court, before fixing the amount of bail, "shall obtain from the Department of Mental Health a report . . . . relative to the prisoner, particularly with respect to any mental disease or defect with which he may have been afflicted," (Ch. 330). Montana at last rechristened its "asylum," changing the name of the institution to Montana State Hospital (Ch. 76); it also provided for observation and voluntary commitment (Ch. 157). New Hampshire, too, fell into line by renaming its "Commission of Lunacy" "Commission of Mental Health" (Ch. 116). New York took a decided step backward (already commented upon in this Journal and officially condemned by this Association) by wiping out all qualifications, medical and otherwise, for eligibility for appointment as Commissioner of Mental Hygiene (Ch. 691). Texas confirmed its position in requiring a jury trial for the commitment of patients confined for longer than 90 days in a mental hospital (Ch. 226). (The many other acts passed had to do largely with minor procedural points.)

One cannot perceive any substantial effect of the war in diminishing legislative output relating to psychiatry or other matters!

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PSYCHIATRIC EDUCATION

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It is a tragedy indeed that it requires a total war to bring to the fore the importance of psychiatry in medical education. Although for more than a decade the importance of the psychiatric viewpoint in medical education has been stressed, progress has been slow; and now, with the tremendous demands of the military forces, we find that adequately trained personnel is not available, and already we have begun to pay the price for this shortage.

In recent years psychiatry had progressed

from the exclusive province of the state hospital to the psychiatric hospital and was beginning to move into general hospitals. Under the impetus of war, it is moving into the induction center, the training camps, the station and base hospitals and the combat areas. As Porter(1) states, it has moved onto the battle field where one tests for such traits as "aggressiveness, hatred for the enemy, subordination to and respect for a higher authority, love of blood sports, nondependence on any one individual or group, spirit of adventure, zest of competition, and adaptability to new surroundings." The idea is growing that psychiatry may be revaluated and even retaught in light of experience gained through the wholesale examination for military service of 10,000,000 persons between the ages of 18 and 45.

While the teaching of psychiatry in medical schools will undoubtedly benefit eventually from the changes taking place, we cannot but recognize that with present handicaps a certain amount of deterioration seems inevitable. The depletion of teachers noted in our earlier communication(2) has continued to the point that many schools have subminimal psychiatric teaching staffs. In addition, the army-navy accelerated program is in full swing with the resultant heavier load of large classes and more frequent repetition of course. Little or no account has been taken of these additional burdens, and the teaching staffs have continued to be stripped of their younger men. Research has almost been abandoned. The Committee on Psychiatry in Medical Education has transacted no official business since its chairman, Colonel Ebaugh, entered the army, and the writer knows of no special educational project undertaken by the Committee during the current year; and no articles, other than those relating to the war, on the teaching of psychiatry in medical schools have appeared. Curriculum advancements, studies in the techniques of teaching, graduate and postgraduate opportunities must await the war's end. It is evident that great efforts must be made that many of the gains already achieved be not lost.

Psychiatric education has become synonymous with military psychiatry in which a great program is being developed for the training of young men for the practice of psychiatry in the armed forces. This program is implemented through: (1) a school of military neuropsychiatry; (2) a school for the training of naval neuropsychiatrists; (3) postgraduate war-time medical meetings; (4) psychiatric consultation service established in some of the service commands; (5) extensive bibliographies. We shall consider these briefly.

(1) *Training in Military Neuropsychiatry.*—The army has established a school for the psychiatric training of army medical personnel. Porter(3) has described this school as "unique in psychiatric education for it has a definite limited goal and does not attempt to follow any particular school or doctrine. It is truly eclectic, selecting whatever is applicable to the military situation from whatever source that is available. The test to which each doctrine or technic is put is, whether or not it is practical in the military setting. The aim is to teach practical neuropsychiatry. We do not aim to compete with other graduate schools in perfecting a man in the super-refinements of any particular school or technic. We do aim to give him the rudiments of a philosophy of psychiatry in order that he apply logical and clear thinking to the behavior problems which come to him for solution. The curriculum has remained fluid and each four weeks the schedules undergo drastic revision in light of accumulated experience. . . . .

"We remember that the school exists for the primary purpose of providing the common ground on which neurologists and psychiatrists may work in the carrying out of the mission laid upon them as military neuropsychiatrists; namely, of keeping men mentally and emotionally fit for combat."

The curriculum includes structural and clinical neurology (36 hours); didactic and clinical presentations of psychodynamics and psychiatric problems (50 hours); clinical clerkships, section instruction and student presentations and discussion (58 hours); neuropsychiatric service administration (21 hours); and military orientation (22 hours). Thirteen classes were completed in one year with a total of from 400 to 650 students. Porter(3) states that it is these men who will carry the torch of neurology and psychiatry in the post-war era.

(2) *A School for the Training of Naval*

Neuropsychiatrists.—The navy medical officer finds himself in the same position as the army and civilian physician; none of them has acquired sufficient knowledge of psychiatry to do justice to cases of mental disorder which develop under his care. The Navy Bureau of Medicine and Surgery has recognized the need for special instruction and provisions have been made accordingly. All officers entering the medical corps of the navy are required to attend a course of instruction in the Navy Medical School, where psychiatry is one of the major subjects. According to Harrison(4), "In addition to a series of lectures on the modern concepts of psychiatry, the student officers have presented to them, by utilizing the material at St. Elizabeth's Hospital, Washington, D. C., the methods of psychiatric examination and clinical pictures of the more important mental diseases." The medical officer who wishes to specialize in psychiatry may be assigned to St. Elizabeth's Hospital for postgraduate instruction.

In addition, another naval training school in psychiatry, under the direction of Strecker (5) has been announced. This program consists of three months of intensive training for naval medical officers. All the medical and hospital facilities in Philadelphia are said to be cooperating in the program.

(3) *Postgraduate War-Time Graduate Medical Meetings.*—Postgraduate psychiatric education has been furthered through the efforts of the Committee on War-Time Graduate Medical Meetings(6). These may include instruction in any of 28 specialties, one of which is psychiatry, and they may be organized in one of the following ways(7): (1) through one day meetings at central points with several outstanding speakers presenting topics of interest; (2) through meeting held on successive days at adjacent camps; (3) through a six day postgraduate program offered in areas where five or six service hospitals are fairly close to each other. In carrying out this program, six teams of two or more authorities each on different medical specialties would appear at the five or six hospitals in a given area one day each week for five or six consecutive weeks. The teaching method would not be limited to lectures, but would include ward rounds, laboratory demonstrations, motion pictures and seminars. The teaching faculty for psychiatry may be drawn from a group of 151 psychiatrists from all parts of the country. Ruggles(8) recommends the following schedule of instruction: selection of personnel at induction centers (2 hours); neuropsychiatric problems during the training period (2 hours); and combat neuropsychiatric problems (2 hours). The actual presentation at each of the sessions has varied from this outline; but practical instruction in psychiatry has been offered.

In addition to psychiatry, psychosomatic medicine is included among the specialties in the graduate program. Forty-one psychiatrists have been chosen to present this subject. Romano(9) has suggested that the schedule include orientation (2 hours); clinical discussion (2 hours); and application to military medicine (2 hours).

At least one state society of neurology and psychiatry, that of Michigan, organized a conference on "The Importance of Neuropsychiatry in the Selection of Men for the Armed Forces." The importance of a thorough psychiatric examination to identify the unstable recruit was stressed, and the published report of the meetings included the discussions following the lectures. The meeting occupied a day and evening and was attended by army, navy and civilian physicians.

(4) *Psychiatric Consultants in Service Commands.*—At least four of the service commands (the second, fourth, seventh and ninth) have psychiatric consultants. These men have a great opportunity to conduct psychiatric education on a wide scale, and two of them have reported on the problems confronting psychiatry in the army. According to Menninger(10) the major problem of military psychiatry is the lack of trained manpower. This lack makes it difficult to eliminate the unfit at induction centers, and makes it necessary to assign to the neuropsychiatric sections a considerable number of physicians who have had neither special training nor experience. Consequently the discharge rate of psychiatric cases is much higher than would be the case were adequate psychiatric personnel available.

Ebaugh(11) too points out that the military psychiatric program is handicapped by

a shortage of well trained men; only 15 per cent of the neuropsychiatric officers are certified by the American Board of Psychiatry and Neurology, and over 20 per cent have had little or no training in psychiatry or neurology. He emphasizes that the induction center should be the chief barrier to the entry of unstable men into the service and suggests that skilled examiners and records of past performance of registrants at the induction center might materially reduce the neuropsychiatric hospital load. He states "It is a sad commentary on medical education when we are faced with the conclusion that the average line officer has a better appreciation of personality problems than the average medical officer. In general, the low sensitivity of the average medical officer to the psychiatric aspects of his daily work is one of the major barriers to more effective work. It would not be too much to ask medical schools to present in the regular clinical teaching program adequate material on military psychiatry and neurology; emphasizing rapid selection techniques; understanding of army classification procedures and tests; the extensive problems of the psychoneuroses and psychosomatic states; and military regulations for the handling of neuropsychiatric cases. Nor would it be too much to ask the medical schools that they require graduates to be able to do at least minimal and fairly accurate personality studies and neurological examinations."

The most successful phase of the neuropsychiatric work of the Eighth Service Command is being accomplished in the replacement training centers. In these the psychiatrist, psychologist and psychiatric social worker coordinate their viewpoints and services. The problems they have met include mental deficiency, illiteracy, physical defects, conduct disorders (alcoholism, frequent absences without official leave, suspected malingering) psychoneuroses, psychosomatic problems, emotional disorders (worry, homesickness, fear, sadness, irritability, aggressiveness) and potential psychoses.

(5) *Bibliographies.*—A considerable volume of literature is growing up to aid the civilian and army physician in the selection of candidates for the armed services. Menninger (12), Smith (13), Stein (14) and Sutton (15) have offered abbreviated neuropsychiatric outlines designed to help identify the psychiatrically ill inductee. In addition much material is accumulating concerning the service man after induction. Since it is well recognized that no more than 50 per cent of the unstable inductees can be recognized at the time of induction, a certain number of potentially unstable persons are entering the military services daily. In 1943 the entire March issue of *Diseases of the Nervous System*, and the July issue of the AMERICAN JOURNAL OF PSYCHIATRY were devoted to psychiatric problems of the armed services.

The necessity for the program outlined above shows beyond doubt that psychiatric education as we knew it before the war was too limited. The shortage of psychiatrists is not surprising in view of the unprecedented demands of war, but the lack of a psychiatric viewpoint among the majority of medical officers betokens a serious defect in medical education. It is evident that only little progress has been made in training physicians for the practice of medicine with a psychiatric viewpoint. As a result, we started the war not only short of psychiatrists, but short of a psychiatric viewpoint. It has now become essential that physicians in the armed services have a working knowledge of psychogenic factors in military medicine.

Certainly the training programs outlined above are to be commended; they represent psychiatric education for an emergency on a very wide scale. If they succeed in awakening the medical man to a deficiency in his education heretofore, and if they succeed in promoting a psychiatric viewpoint, they will have accomplished much, and psychiatry will have advanced far. However, if these training programs lead men to believe that they are psychiatrists, fully equipped to deal with emotional problems, a great deal of "half baked" psychiatry is going to be practiced in the future, with considerable discredit to the profession. All of us must recognize that, commendable as all these educational efforts are, they are at best cursory and superficial; they are designed to alleviate rather than to remedy a glaring deficiency. Furthermore, they are directed for the most part merely to the end that psychiatric morbidity be recognized in order to exclude un-

suitable individuals from the service. Some treatment is given, but rehabilitation of the sick seems not to be considered the function of the military machine.

In summarizing the year's progress in psychiatric education, one is struck with the difficulties which are besetting medical school teaching, research and graduate training. On the other hand, extensive efforts are being made to remedy in part the shortcomings in psychiatric training of the medical personnel of the armed services. At present we see little prospect of help in medical school teaching for the duration, and we can only hope that the hard won gains of the past decade may be maintained. Even in military psychiatry, there is little possibility of offering much more than the current brief instruction. Certainly psychiatric education of the future will be altered by the tremendous forces which are operating in the world, with a clearer recognition of the part psychiatry should play.

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PSYCHOMETRICS

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There is little question that present conditions at least furnish a medium very favorable to the advancement of systematic studies of human behavior. A great deal of psychometric progress has been made in military and naval settings, but it is available in only a general and fragmentary way. Current reference to the *Psychological Bulletin* offers the best civilian means to keeping abreast of what progress is being made through the Services.

Whether or not one subscribes to its point of view, especially concerning the worth of global measures like the intelligence quotient, Cattell's(7) review of the problem of adult intelligence measures deserves a careful reading by all interested in this topic. On the foundation of a wide experience, Armstrong(2) compares the Stanford-Binet and the Wechsler (Bellevue) procedures, reaching the conclusion that the 1916 Stanford-Binet is superior to both the 1937 Stanford-Binet and the Wechsler in distinguishing innate defect from environmental impairment. One might expect a considerable part in this conclusion to be explained by the fact that the 1916 Stanford-Binet is better understood, owing to the greater experience there has been a chance to gain with it.

British publications in clinical psychometrics, while fewer in number than ours, are uniformly distinguished for high quality, and the emergency has brought to light a number of interesting procedural contributions. Certain of these play a part in Bradford's(5) study, which reaffirms the special value of the non-language procedures in evaluating mental defect. The work of Jastak, Bijou,

Uhler and others in this country is very comparable. Jastak has more recently turned his attention to the patterning of test responses in infants, and gives some very stimulating ideas based upon analytic comparisons of various infant measurement techniques. The significance of this patterning appraisal is further brought out in a Bellevue Scale study by Reichard and Schafer(34). An elaborate study of prefrontal leucotomy is reported by Ström-Olsen, Last and Brody(40). In Britain they seem to assimilate our techniques more readily than we do theirs. Of considerable theoretical interest is a study by Keller(23) on the circumstances in which a conditioned galvanic skin response to stimulus A was transferable to a related stimulus B. Similar work by Diven may be recalled in this connection. Reichard and Rapaport(33) contribute a succinct addition to the slow-growing but important literature on measures of concept formation, with special reference to clinical material.

Stephens and Thompson(39) add another account to the cases of identical twins reared apart, with the suggestion that intellectual traits have been less influenced by the differential environment than those of personality. A relevant contribution is that of Gardner and Newman (the latter's many studies in the field will be recalled) on a case of one-egg triplet boys with a girl sibling; but the psychometric aspect of this situation is less stressed. The nature-nurture flurry created by the "Iowa experiments" has rather subsided, and left the lines drawn about as they were. The non-intellectual factors in this issue are very well pointed up by Pastore(29).

From the standpoint of cultural and environmental factors, Machover(26) contributes a study of matched pairs among negro and white delinquent and non-delinquent groups. He confirms the importance of patternings in test response, and studies its cultural relations. Among superior adults Smith(38) reports studies with a college aptitude test, finding an expected downward tendency as distance from urban centers increases. Clearly too, one might look for like differences within urban areas. The same writer(37) reports work on the prestige of occupations somewhat along lines pointed out by Hartmann.

In line with current interests in the psychology of later maturity is Kaplan's(21) study of comparative intellectual levels in high grade defectives examined in middle life and after an average interval of 15 years. Types of etiology are pointed out, more and less favorable to a retention of intelligence status.

The projective methods early demonstrated their special relevance in psychopathology, and of these the Rorschach test continues to receive the most attention. Early in the year the *Journal of Consulting Psychology* had an issue devoted to the topic, including a critical treatment by Hertz(16); discussions by Krugman(25) of its application to child guidance; by Munroe(27) of its significance for college counseling; by Piotrowski(30) with respect to vocational selection. Beck(3) is the natural contributor as to psychopathological relationships, as is Harrower-Erickson(14) with regard to large-scale use. Teaching aspects are reviewed by Klopfer(24). This fanning out of the topic is not incomparable to that in the history of psychoanalysis.

Harrower-Erickson(12, 13) contributes other discussions of the group method devised by her, and a somewhat more elaborate procedure for group use is described by Hertz(15). It is probable that from a quantitative standpoint the group procedure is a reasonable equivalent of the traditional one; whether its qualitative sacrifice does not overbalance economies that can be effected with the individual technique, is a very open question.

Ross, Dancey and Brown (35) report trial of a group Rorschach procedure in the Canadian armed forces with results indicating serviceability; though not as an independent criterion, a claim that should not be made for any single "test." Hertz(17, 18) continues her studies on the Rorschach reflection of personality patterns in adolescence with special reference to *Erlebnistypus;* and a carrying of the method to its earliest chronological limits is represented in the studies of Kay and Vorhaus(22). A varient of the "finger painting" technique is applied to these same early years by Alschuler and Hattwick(1) and discussed in some of its dynamic aspects. The possibilities of organic Ror-

schach pattern have already attracted some attention, and Hitch(19) reviews the matter in the setting of an arteriosclerotic case. Brown(6) contributes observations in relation to morphinism. In conformity with previous studies, a considerable range of tests, from Pressey X-O to Rorschach did not generally differentiate groups of delinquent girls, in a study reported by Boynton and Walsworth(4).

Amid the welter of Rorschach literature other projective methods do not receive the recognition which is their relative due. Christenson(8) describes an attempt in the direction of economy with "thematic apperception," which is still in an essentially qualitative stage, but represents lines along which progress may be looked for. Sarason(36) discusses its significance with the mentally defective. A convenient reference list on general thematic test procedure is provided in a paper by Rapaport(32); the pioneer paper by Schwartz mentioned is probably that published in the *American Journal of Orthopsychiatry* in 1932.

Use of the thematic apperception test has been hampered by a cumbrousness not less than that of the traditional Rorschach, and which is probably modifiable in similar degree. Harrison(11) gives a comparison of the two, based on intensive observation of a single case. A "graphic Rorschach" procedure, in which the examinee attempts to draw what he has seen in the Rorschach figures, has attracted some attention, and is described by Grassi and Levine(10). A variant procedure in the use of picture stimuli is described by Proshansky(31) with checks against an attitude scale. Pascal(28) contributes an unusually precise inquiry into the relation of certain personality traits to handwriting movements.

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COMMENT

ROY DENNIS HALLORAN

Once more it is necessary to chronicle a major loss in the ranks of psychiatry in the death of Colonel Roy D. Halloran, chief of the division of neuropsychiatry in the United States Army. The ravaging of the Pale Horseman has been ruthless in the year 1943.

Less than a year and a half ago[1] Col. Halloran took up his duties in the Office of the Surgeon General in Washington, and in the military symposium at the annual meeting in Detroit last May,[2] he and Lt. Col. Farrell reported on the services organized and in process of extension and on the various functions of psychiatry in the Army.

Of this work, Surgeon General Norman T. Kirk in his foreword to the military symposium, said: "An organization has been developed to aid in fully utilizing the principles of preventive medicine and training in this special field. Large numbers of neuropsychiatrists have been assigned at the most strategic points in the Army structure from induction to discharge. All efforts are being constantly directed toward the development of more effective methods in view of longer and wider experience."

A graduate of the College of Physicians and Surgeons of Columbia University, Col. Halloran had unusually extensive training and varied experience in psychiatry and displayed marked ability and initiative in organization and leadership. He had served on the staffs of the Newark, New Jersey, City Hospital, the New Hampshire State Hospital at Concord, the Boston State Hospital where he was assistant superintendent and associate in research and was finally appointed superintendent of the great Metropolitan State Hospital at Waltham, Massachusetts, as well as clinical professor of psychiatry at Tufts College Medical School. He obtained leave of absence from these two positions in order to take his post in Washington. One indication of his suitability for this critical assignment was the excellent graduate course in neurology and psychiatry for state hospital physicians and army medical officers directed by Col. Halloran at the Metropolitan State Hospital.

There had been a crying need of an outstanding man to take over the direction of the psychiatric services in the Army and Col. Halloran's appointment had met with general satisfaction. He had obstacles to face, many of them. Military tradition, like medical tradition itself, has not been too readily receptive of psychiatric teaching. Despite the inevitable handicaps he was able to make progress and produce results along the lines indicated by Surgeon General Kirk.

There is every hope that the organization built up by Col. Halloran will keep full pace with the demands of the war and that, as they have already done, the psychiatric services will give an increasingly good account of themselves.

VISIT OF BRITISH MILITARY PSYCHIATRISTS

A noteworthy event in military psychiatry was the visit to the United States and Canada in November of Brigadier J. R. Rees and Lt. Col. G. R. Hargreaves of the British Army. These two medical officers have been mainly responsible for organizing the psychiatric services in the armies of the United Kingdom, and they came to give their American and Canadian confreres the benefit of their long experience and also to observe methods in vogue on this side.

In Washington they conferred with psychiatrists from both U. S. and Canadian headquarters staffs, and together the group visited various training centers in both

[1] v. this JOURNAL, Sept. 1942, p. 306.
[2] *Ibid.*, July 1943, p. 14.

countries. It will be recalled that in an article in the British Medical Journal in January 1943, and referred to the July 1943 issue of this JOURNAL, Brig. Rees set forth some of the results and achievements of three years of military psychiatry in Britain. On the present tour he was able to report on four years of British military psychiatry.

The significance of this visit of our British colleagues and allies rests not alone in the value of the information they could bring and the lessons we could learn from their splendid accomplishments, or, as they were generous enough to say, in profitable observations they could make over here; but preeminently in the method of dealing the visit typified—another example of the bringing together on both Canadian and American soil of the military authorities of the three English speaking nations, an earnest of a kind of collaboration from which the world is entitled to expect so much.

WAR ATTITUDES OF CHICAGO YOUTHS

Some rather disturbing findings concerning the attitudes of youths of high school age in Chicago toward the war have been reported by Mandel Sherman.[1]

Seven thousand youths were studied, the principal method being the introduction of the topic of war attitudes as the subject of one of the regular required English themes. By this means it was felt that the students would express themselves freely, being under the impression that the assignment was just another exercise in English composition.

General attitudes so recorded were classified in seven groups:

	Per cent
1. Direct antagonism to the war	5
2. Critical attitude toward the war	6
3. Indifferent or neutral attitude	21
4. Confusion regarding the war	12
5. Mildly favorable, partially critical attitude	9
6. Favorable attitude toward the war	26
7. Strongly favorable attitude	21

From the standpoint of the state of the world in the midst of this war and of the possible consequences of the United Nations winning or losing the war, the first four attitudes recorded above must be regarded as unfavorable and grievously unfortunate. And these are the attitudes of 44 per cent of these 7000 high school students of both sexes.

Here are youths who would soon have to face the question of military service and who were hostile to American participation in the war or expressed ideas favorable to the enemy, or who were critical of the war effort on the utterly unrealistic premise that "war is wrong," or who took no particular stand one way or the other except to complain of personal deprivations, or who admitted that they did not know what the war was all about or what we were fighting for.

Even the "mildly favorable" group expressed uncertain and critical attitudes and apparently failed completely to grasp the hard realistic issues of the conflict. They could nowise be reckoned as all-out for the war effort. Add these to the preceding four groups and we have 53 per cent of these youths who, after three years of the World War that at length, since the Day of Infamy had directly involved their own country, had no clear view or singleness of purpose as to the road inevitably to be taken.

Who is to blame? Is it the parents, or the school, or a prevailing community spirit? And in the shaping of these attitudes in the home and in the community how much responsibility must be borne by the newspaper in the gothic tower?

It would be interesting to see whether a similar survey would bring forth different results in other school populations east and west.

[1] Psychol. Bull., April, 1943.

NEWS AND NOTES

SALMON MEMORIAL LECTURES.—The Thomas William Salmon Lectures for 1943 were given by Dr. Abraham A. Brill at the New York Academy of Medicine, Nov. 5, 12 and 19, 1943. The subject was "The Psychotherapeutic Contribution to Psychiatry."

Dr. Brill talked on Freud's contribution to psychiatry. He devoted the first lecture to the psychiatric scene of 1900 in which the Kraepelinian concepts predominated in most of Europe. In this country, a new epoch began with the advent of Dr. Adolf Meyer as director of the New York State Psychiatric Institute. He was appointed to this office by Dr. Frederick Peterson, the then chairman of the State Commission of Lunacy (now, Mental Hygiene Department) who indirectly also brought Dr. Thomas W. Salmon to New York City. For Peterson, who cooperated with the United States Public Health and Marine Hospital Services in starting psychiatric examinations in the immigration centers, recommended Dr. Salmon for the Ellis Island Station. The status of psychiatry when Dr. Brill entered the New York State Hospital Service soon after Dr. Meyer became director of the Psychiatric Institute was not very high, but it went through the greatest scientific upsurge in its history in the following five years. Dr. Brill gave a vivid account of the different trends of psychopathology of that time, and compared the crude methods of examination and study of mental patients with the progressive changes that took place under the aegis of Dr. Meyer.

The second lecture was devoted to a brief history of psychotherapy in which Dr. Brill became interested when he decided to go into private practice. Describing his effort to educate himself as a psychotherapist, he gives the status of that specialty both here and abroad. It consisted mainly of hypnotism and suggestion to which was added later DuBois' method of persuasion. After trying all these methods, he was sent by Peterson, who introduced him to psychiatry, to the psychiatric clinic at Zurich, and there he learned from Bleuler and Jung, Freud's psychoanalytic methods which he later introduced here through his translations and writings.

The third lecture was devoted to what Dr. Brill called the direct contributions of psychoanalysis to psychiatry. He stresses the psychogenetic approach not only to the psychoneuroses, but to the psychoses which was started by Freud himself in 1896 and was brought before the psychiatric world by Jung's "Psychology of Dementia Præcox" in 1907. The special contributions which Freud made to psychiatric problems, according to Dr. Brill, are not only to the psychoneuroses but to paranoia and paranoid states, and melancholia and kindred conditions.

The lectures represent Dr. Brill's personal experiences and evaluations of the Freudian contributions to psychiatry.

AWARDS FOR RESEARCH.—The Pi Lambda Theta National Association of Women in Education announces two awards for research on "Professional Problems of Women," from the Fund as the Ella Victoria Dobbs Fellowship.

Two awards of $400 each will be granted on or before September 15, 1944, for significant research studies in education. A study may be submitted by any individual whether or not engaged at present in educational work, or by any chapter or group of members of Pi Lambda Theta. No study granted an award shall become the property of Pi Lambda Theta, nor shall Pi Lambda Theta in any way restrict the subsequent publication of such study.

Three copies of the completed research study shall be submitted to the Committee on Studies and Awards by August 1, 1944. Information concerning the awards and the form in which the final report shall be prepared will be furnished upon request. All inquiries should be addressed to May Seagoe, University of California at Los Angeles 24, Los Angeles, California, chairman of the Committee on Studies and Awards.

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EXTERNES IN PSYCHOLOGY, MICHAEL REESE HOSPITAL, CHICAGO.—Michael Reese Hospital announces two grades of externeships: senior and junior. Stipend: to seniors, $900 per year on a three-quarter time basis; plus the privilege of taking all meals at the hospital. To juniors: $300 per year; on half-time basis and one meal.

These externeships have been instituted to provide training for psychologists planning to enter the clinical field. Appointees participate fully in the activities of the psychology laboratory, and work together with the psychiatric and social service staffs in studying patients. All externes are expected to learn and utilize the various psychological techniques, including the Rorschach test. Time and freedom are offered to pursue studies for the advanced degrees in the universities. No male applicant will be considered who has not been deferred for military service.

The present plan is intended to provide an advanced level of preparation for senior externes who have had a minimum of one year's practical training experience. All other considerations equal, preference will be given to junior externes in this laboratory. One externe at each grade will be appointed; each for one year. All applicants must be university graduates who have had the fundamental background in psychology.

Interested persons will please write to S. J. Beck, Ph. D., head of the psychology laboratory, Michael Reese Hospital, Chicago.

NATIONAL SOCIETY FOR CRIPPLED CHILDREN.—The eleventh annual sale of Easter seals for crippled children, sponsored by the National Society for Crippled Children and its affiliated organizations, will be conducted from March 9 to April 9, 1944.

The Easter seal has come to symbolize the complete and ideal program for the adjustment and restoration of handicapped children to a normal and happy life. This program, which requires many agencies, both public and private, consists of five main points. These are an opportunity for the child to get well, to go to school, to play with other children, to learn a trade or profession, and to work for a living—in short, the same opportunities all children should have. The growth of the annual Easter seal sale reflects the public desire that this work continue and flourish.

The revenues derived from the annual sale of these little stickers have helped make possible the physical restoration and training of many crippled children who have since become useful and happy citizens.

Easter seals cost a penny each or $1 per sheet of 100. For information and illustrations, address the National Society for Crippled Children, Elyria, Ohio.

OCCUPATIONAL THERAPY COURSE AT THE UNIVERSITY OF ILLINOIS.—Prof. James G. Van Derpool, Head of the Department of Art, University of Illinois, announces a four-year curriculum in occupational therapy instruction beginning in October. The program conforms with the most advanced practices advocated by the American Medical Association, and leads to a bachelor of science degree in occupational therapy.

The curriculum centers in the University of Illinois College of Medicine. However, the students will spend their first five semesters on the University's Urbana-Champaign campus, where eight departments will offer specially designed courses. The next four semesters will be spent in the College of Medicine—half time during the first three will be devoted to clinical experience, and during the last semester full time.

The curriculum at the University of Illinois is the first to be offered in this state in the present emergency. It is a contribution not only to the war effort but also to the peace-time reconstruction that must follow.

SIGNIFICANCE OF SEROLOGIC REACTIONS.—In a report, "Serologic Reactions in Non-syphilitic Individuals" (J. Iowa State Med. Soc. Nov. 1943), Barnes, Borts, Miller and Spanswick come to the following conclusions:

1. Of the serologic *reactors* subjected simultaneously to multiple tests, from 11.0 to 45.0 per cent in various groups have been found to give contradictory reactions by Kline, Kahn, and Kolmer tests.

2. These contradictory reactions appear with considerable frequency among individuals in whom the serologic reports constitute the sole reason for suspecting syphilis.

3. Among these nonsymptomatic contradictory reactors, complete spontaneous serologic reversal to a negative state has been observed to take place after periods ranging from weeks to months.

4. This reversal to a negative state has been observed in some instances to follow promptly the use of a meat-free, milk-free, abundant liquid diet, including fresh vegetables and fruit juices.

The authors believe that their findings "provide a warning to physicians who place their reliance *solely* upon serologic reports. It is equally as much the responsibility of the physician to rule out syphilis as it is to rule it in. If the serologic reactions can be caused to disappear when dietary factors are changed, one thing appears to be reasonably certain; namely, that whatever is the causative factor in the reactions, it is not active syphilis."

THE AUSTIN RIGGS FOUNDATION.—Dr. Charles H. Kimberly, medical director of the Austin Riggs Foundation, Stockbridge, Mass., reports the addition to his staff of Dr. Harvey Spencer, formerly acting director of the Habit Clinic for Child Guidance and psychiatrist at the Judge Baker Guidance Center, Boston, Mass.

PHYSICAL MEDICINE AND INFANTILE PARALYSIS.—The first center for the scientific study and development of physical medicine as a branch of medical practise has been established in the Graduate School of Medicine of the University of Pennsylvania at Philadelphia. Mr. Basil O'Connor, president of The National Foundation for Infantile Paralysis, states that for this purpose the Foundation has made a grant totaling $150,000 for a five-year period from January 1, 1944.

In making his announcement, Mr. O'Connor says: "Physical medicine plays a most important part in the treatment of infantile paralysis. Since it was first organized, the National Foundation has been continuously concerned with this phase of treatment. It has spent during the past six years over $350,000 to educate and train physical therapy technicians. An additional $364,000 has been granted to laboratories and universities to study many problems in physiology and medicine having a close connection with the practice of physical therapy, but never before has it been possible to combine in one place both medical research and teaching in this important field."

The departments of anatomy, physiology, pathology and other basic sciences of the University of Pennsylvania will cooperate in the proposed program. The general direction will be assigned to Dr. Robin C. Buerki, dean of the Graduate School of Medicine.

REVISTA ARGENTINO-NORTEAMERICANA DE CIENCIAS MEDICAS.—The first issue of this new monthly publication appeared in May, 1943. In an introductory statement the editors express the purpose "to unite in our pages the language that expresses the spirit of old Albion inherited by her children of the North, and that of the Iberian race perpetuated by its Central and South American descendants." The *Revista* gives gracious expression to the desire to strengthen the brotherhood of Argentine and North American medicine. To the pages of the *Revista* will be welcome medical news and reports from all the Americas.

Various fields of medicine will be represented in each number. Following each article in Spanish is a full summary in English. Contributors to the issue before us represent Buenos Aires, Cleveland, Rosario, San Francisco, Cordoba, New York, La Plata, Chicago, Montevideo. Foster Kennedy and Benjamin Wiesel present an article on the treatment of mental disorders by electroshock.

There has been set up in the University of Buenos Aires the American Interuniversity Bureau of the Medical Faculty, the purpose of which is to foster closer relationship between all American medical schools, to disseminate among them news of progress and information concerning important medical developments, to exchange publications, to keep a record of all medical congresses, to maintain a classified directory of all medical faculties on the continent with data concerning the medical schools, personalia of teaching staff, etc., and to serve as an information and meeting center for

professors and graduate students who visit Buenos Aires. The hand of fraternity and friendship that the *Revista* together with the Medical Faculty of the University of Buenos Aires extends to the medical publications and faculties of the sister republics of the Americas will surely be grasped warmly by them in the spirit of unity and mutual collaboration.

This JOURNAL salutes the *Revista Argentino-Norteamericana de Ciencias Medicas* and wishes it the success its splendid undertaking deserves.

The editorial committee of the *Revista* consists of Prof. Atilio J. Costa (University of Buenos Aires), Prof. Federico Christmann (University of La Plata), Prof. Carlos F. Gandolfo (Univ. Buenos Aires), Prof. Juan R. Goyena (Univ. Buenos Aires), Prof. Nicanor P. Costa (Univ. Buenos Aires), Prof. David Staffieri (Univ. del Litoral), Prof. Alberto U. Zavalía (Univ. Córdoba), together with an extensive staff of collaborators from the several Argentine universities.

The general secretary is Dr. Alfredo C. Muscio; the editorial and publication office is Ayacucho 576, Buenos Aires, República Argentina.

LANGUAGE AND TREATMENT.—"Today while medical education is much discussed and views are controversial there seems to be general agreement that early specialization in science at the expense of a broader general education is to be avoided; but the specific need for the student to study English so that he may express himself clearly both in writing and speaking, *because* this is an essential part of his work, is less clearly stressed and not enforced. Those who control medical education, once they recognize that this is a need, could do much to meet it by demanding a much greater command of language from the medical student. They should realize that for him the study of the English language is as important as the study of anatomy and physiology, because it is the vehicle which makes or mars all the rest of diagnosis and treatment and indeed can often make or mar research."—LESLIE COLE, M. D., *Lancet*, Nov. 6, 1943.

COL. WM. MENNINGER TO DIRECT PSYCHIATRIC SERVICES IN U. S. ARMY.—Announcement has been made of the appointment of Col. William C. Menninger as chief of the division of neuropsychiatry of the United States Army in the Office of the Surgeon General, to succeed the late Col. Roy D. Halloran.

Col. Menninger is a native of Kansas, holds the degree of M. A. from Columbia University and is a graduate in medicine from Cornell Medical School. Since 1930 he has been medical director of the Menninger Sanitarium, Topeka, Kansas, obtaining leave of absence from this position in order to enter military service.

Before taking up his duties in Washington, Col. Menninger was neuropsychiatric consultant of the Fourth Service Command with headquarters at Atlanta, Georgia.

REPORT OF NOMINATING COMMITTEE.—The Nominating Committee has nominated the following officers for 1944-45:

For President, President-Elect Karl M. Bowman.
For President-Elect, Samuel W. Hamilton.
For Secretary-Treasurer, Winfred Overholser.
For Councillors, Edward A. Strecker, R. Finley Gayle, John P. S. Cathcart, and Frederick P. Moersch.
For Auditor, Garland H. Pace.

R. M. CHAPMAN,
Chairman, Nominating Committee,
ABRAM E. BENNETT,
EARL D. BOND,
ARTHUR H. RUGGLES,
HENRY W. WOLTMAN.

NOTICE OF PROPOSED CHANGE IN CONSTITUTION.—In accordance with Article VIII of the Constitution and by vote of the Council at a meeting held December 19, 1942, notice is hereby given that at the annual meeting in 1944 the following amendment of which notice was given at the annual meeting in 1943 will be proposed for action: Amend Article III, Sec. III by striking out in line 1 the words "Examining Board" and substituting the words "Committee on Membership"; in paragraph 1, line 3, and in paragraph 2, line 1, strike out the word "Board" and substitute the word "Committee."

HOME FOR THE ASSOCIATION.—Dr. Ruggles in his Presidential Address given at the Detroit Meeting in May 1943 said, "Our rapid growth and our increasing responsibilities call for the establishment of a permanent and unified center of the American Psychiatric Association." Dr. Ruggles pointed out that a permanent home for the Association would not only house the offices of the Association but permit the establishment of a psychiatric library, and information center for all the members, and, in addition, serve as a place for Council meetings and for any other services that might develop in the future.

As a result of that address, the Executive Committee decided to inquire into the possibilities of acquiring such a permanent home in New York City. The Executive Assistant was appointed to investigate the possibilities of acquiring a suitable residence in New York City that would meet the specifications of the above mentioned facilities.

At the recent Council meeting held in December at the Hotel Lexington, the Executive Assistant reported that he had investigated a number of houses but had no specific recommendation to make, as there are other factors to be taken into consideration, such as the question of whether the property would be tax exempt and whether the Association was prepared for such a step.

Realizing the magnitude of the suggestion, the Council desires to know from the members whether they are in favor of acquiring a permanent home and, if so, whether its location should be in New York City where the headquarters have been, or in some other city. While it is true that the Association has a reserve fund which it might use for such a purpose, the Council would also like to know from the members any other financial plans they might like to suggest.

The Fellows and members are invited to forward opinions and suggestions on this important topic.

WINFRED OVERHOLSER, M.D.,
Secretary-Treasurer,
St. Elizabeths Hospital,
Washington 20, D. C.

1944 CENTENNIAL MEETING.—The 1944 Centennial Meeting, to be held in Philadelphia, will be an outstanding meeting. Unusual preparations have been made by the Philadelphia Committee on Arrangements. If you are planning to attend, please be sure to make your hotel reservations early. The headquarters' hotel will be the Bellevue-Stratford Hotel at Broad and Walnut Streets, Philadelphia, Pa. Since a large turnout is expected, it may not be possible to house you at the Bellevue-Stratford, but there are other good hotels near by. Will you, therefore, please send your reservations to Dr. LeRoy Maeder, Chancellor Hall, 206 S. 13th St., Philadelphia 7, Pa., who will take good care of your reservations.

RAILROAD RESERVATIONS.—Due to war conditions, please be sure to obtain your railroad accommodations well in advance, and, it is recommended that you purchase round-trip tickets outright and make sure that you have return transportation.

SUBSCRIPTION RATES FOR MEDICAL STUDENTS AND INTERNES

Last year a special subscription rate of $3.00 ($3.25 in Canada) was authorized for medical students, and a gratifying number of students have taken advantage of the reduced rate.

It is realized however that this benefit is somewhat prejudiced if the student on graduation and entering upon his interne year is faced with the dilemma of paying at once the full rate ($6.00) or discontinuing his subscription.

To encourage him to continue reading the JOURNAL, therefore, the special rate has been extended and now applies not only to undergraduate students but also to medical internes during the first two years after graduation from medical school.

BOOK REVIEWS

THE EXPRESSION OF PERSONALITY: Experimental Depth Psychology. By *Werner Wolf*. (New York: Harper & Bros., 1943.)

This compact, closely printed volume with a bibliography of 428 titles, and numerous tables and illustrations affords a concrete summary of extensive exploratory experiments conducted by Werner Wolf since 1925. Under the influence of Max Wertheimer, the author began his studies in the psychological laboratory of the University of Berlin. He became "a displaced foreign scholar," but fortunately was able to continue his work in Spain and in the United States. Gardner Murphy, in an editorial foreword, hails the monograph as "one of the most important psychological books of the era"; and suggests that the author and the methods "need sympathetic understanding, subtle adaptation, and friendly criticism."

In spirit and procedure, the whole undertaking represents a merging and intermingling of Gestalt philosophy, psychoanalytic approaches and quantitative laboratory psychology. The experimental data consist largely of verbalized introspective reports and judgments of sophisticated adults, who were subjected to a variety of visual and auditory matching tests, questionnaires, and association tests. "The final aim of this research," says the author, "is to explore the 'vocabulary' of man's personality, the grammar-like laws of its organization, and to determine the private language of the self with which the individual transforms the common language of personality. . . . . The present volume should be considered the first in a series for which it forms the experimental basis."

Personality is the total manifestation of man. It reveals itself in expressive acts—in physiognomy, in hand posturings, voice, handwriting, color preferences, tabu words, locomotor gait, tapping rhythms, breathing intensities, and in motor demeanors of prehension, throwing, etc. All these expressive acts were recorded by ingenious methods; and reproduced by photographs, motion pictures, tachistoscope, sound records, etc. They were then judged by different observers, including subjects who were confronted with their own specific forms of expression.

This method of *self-confrontation* is the central theme of the volume. Here the experimenter attempts to come to grips with what he calls "the inner personality." Here are the ultimate depths of depth psychology; for the self-judge does not always recognize his self and his unconscious dynamisms reveal themselves in the manner in which he reacts to the self-confrontation. Sometimes, of course, the self-judge recognizes himself; but Wolff places more weight on the "unconscious self-judgments," on the unrecognized auto-evaluations which give evidence of internal tensions, and the dualities of personality. He is interested in "latent" traits rather than the "manifest" traits which are elicited by ordinary clinical methods.

Toward this end, he constructed what he calls "the crossroads test." The subject is asked to choose one of two opposites in five pairs of contrasting traits designed to disclose the following aspects of personality organization:

Individualism	Altruism
Introversion	Extroversion
Impulse	Responsibility
Feeling	Rationality
Passivity	Activity

These trait pairs are embodied in 25 stories which are read slowly and unemotionally to the subject in one sitting. The subject is asked to retell the stories and to respond to various memory, perception, decision, and matching tests based on the content of the stories. In addition to trait trends, the experimenter was interested in common denominators which establish the functional interrelations of traits. To this end, the subjects were asked to match concepts to the four primary colors. "It is our hypothesis that affective linkages among these concepts will be found, and that different groups of concepts will be linked—unconsciously, for the most part—with corresponding colors."

The crossroad color matching test is offered as an example of the diagnostic possibilities of "deep personality analysis." When applied to Subject 10, the following inferences were made on the basis of his color associations:

> He prefers the feminine traits "woman" and "mother," and shows a "regressive tendency," preferring "child" and "past." All this is related to sociability, femininity, feeling. Childhood is pleasant, and in the direction of wishes. He rejects activity for the sake of his own personality, such as "success," "profession," "future," and "myself"; this supports the diagnosis of personal discouragement. Since "discouragement" has the same color as "father," we may assume a so-called "father complex." But as blue is related to ethical values and has a preference degree, we may conclude that this subject tries to balance an emotional discouragement by ethical values. For our subject blue is "reality," yellow is "wish," red is "action."

It will be seen from this example that the methods are at present in a cumbersome, exploratory stage of development. But the author wishes to sink a very deep plummet. By the experimental technique of self-confrontation, he hopes to determine the general relationships of the tendencies in the depths of personality. This is his Gestalt approach to the ancient problem of psychic constitution. The study of the actual organization and life history of personality will require supplemen-

tary concepts and additional labors, which are promised in forthcoming reports.

Nevertheless, the closing section of the present volume deals with the psychiatric task of personality diagnosis, and maintains that experimental development of depth psychology will afford a firmer basis for characterological skill.

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WILLIAM JAMES: HIS MARGINALIA, PERSONALITY AND CONTRIBUTION. By *A. A. Roback*. (Cambridge, Mass: Sci-Art Publishers, 1942.)

This book about William James is another of the many contributions for which the centenary year provided a natural opportunity. It is essentially a book about James, not an exposition of the doctrines of James. The title is an indication of the contents. The marginalia are the comments found in the books which James read. These annotations the author began to collect in 1923 when he "was called in to examine the books and to appraise them individually." As supplementary notes to the existing works on James these comments have value: they form a link between process and result for the student of James' published works.

The second part of the book is occupied with short discussions of different topics, such as the attitude of James toward the Freudian doctrine and spiritualism, his political ideas and his handwriting. The third part is a more independent effort to make "an estimate of the man and his work." This takes the form of an inventory of significant traits of character, in the manner which is typical of current psychological analysis. As the author says, "This atomistic account of his personality would possibly not have been relished by the protagonist of a composite approach to the study of psychological facts." An extensive "psychographic profile" is provided, which we imagine would have caused James to exhibit some annoyance. However the comments on the different traits include many interesting items about incidents in the life of James and record some of those reactions or expressions of opinion which are too fragmentary to find a place in more formal narratives. In general this is an entertaining book which those who are interested in James will find instructive because it reveals much that is casual and fragmentary but at the same time illuminating. The book is well printed and free from errors: an exception is to be found on p. 86 where the sentence "the conclusion that Freud would not have espoused psychoanalysis" seems unintelligible unless "Freud" is a misprint for "James"; and is "disembowelment at the door of an enemy" (p. 88) really a "Chinese custom?"

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THE MENTALLY ILL AND PUBLIC PROVISION FOR THEIR CARE IN ILLINOIS. By *Stuart K. Jaffary*. (Chicago: University of Chicago Press, 1942.)

The author, who is director of the School of Social Work of the University of Toronto, presents here a careful study of the evolution and present status of the Illinois State Hospital system. The presentation is of interest beyond the confines of Illinois, a great and wealthy State with a long history of institutional development, one with which the names of Dorothea Dix, Herman Adler, Douglas Singer, and Adolf Meyer, among others, are inseparably connected. The State, furthermore, has been the pattern for a number of others in that it was the first "in which the care of the insane became a responsibility of a State department of public welfare which was also charged with the care of other dependent groups"—boards of trustees were abolished in 1910, seven years before the departmentalization of the State government.

Out-patient departments (for paroled patients only, thanks to the opposition of the medical societies), schools of nursing, and occupational therapy were instituted early (1920), even though personnel has consistently been under American Psychiatric Association standards and even though politics has seldom if ever been entirely out of the administration of the institutions. Even today, indeed, the position of managing officer is not subject to Civil Service, and is often filled by the appointment of a non-psychiatrist. The fact that the director of the Department of Public Welfare (the supervisory department) is a non-medical man, appointed for a fixed term and a member of the Governor's cabinet, has led, even with the shadowy aid of a state alienist (a purely advisory office) and more recently of a full-time psychiatrist as assistant to the director, to rather feeble guidance and supervision of the institutions.

The author recommends the establishment of a separate Department of Mental Health, under a well-qualified psychiatrist provided with suitable tenure, merit appointments in the hospitals, better salaries, an adequate industrial compensation system for state employees, a retirement plan and better housing.

The volume gives credit where credit is due (and there is much of value in the Illinois system), while pointing out clearly the defects, past and present. It is a constructive exposition of the manner in which one of our wealthy and populous states has met the challenge of mental disease.

The work is multilithed, but is readily legible. It should be read by all mental hospital administrators and by all who are interested in the progress of institutional and community psychiatry.

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THE NATURE OF LITERATURE. ITS RELATION TO SCIENCE, LANGUAGE AND HUMAN EXPERIENCE. By *Thomas Clark Pollock*. (Princeton University Press, 1942.)

The purpose of this book is to vindicate literature as a subject for serious study and to establish a sound literary theory. The author discusses the nature of language, shows its tendency to become more abstract as it develops, and
the two types of writing called by DeQuincey "the literature of knowledge and the literature

of power." In "The Meaning of Meaning," Messrs. Ogden and Richards make a similar distinction between "referential symbolism," or the communication of facts and their relationships by means of words which "symbolize a reference to a referent"; and "emotive symbolism," or the use of words to excite emotions and attitudes. Professor Pollock contends that the second division does not distinguish between propaganda and *belles-lettres*, and he proposes a threefold classification: "pure referential symbolism" (matter of fact or science); "pragmatic-referential symbolism" (the stimulating of an attitude or an action in relation to facts or ideas); and "evocative symbolism," in which a writer evokes in a reader's mind a concrete psychophysical experience similar to one of his own. From this evocative symbolism (literature) the author also distinguishes a sub-type, "pseudo-literature," in which a writer communicates no experience of his own, but by catering to public taste tries to evoke an experience pleasing to the reader.

In illustration of the methods by which an experience is evoked, Professor Pollock shows that the suggestive power of phrasing, imagery, and sound-pattern often produces an effect akin to hypnosis; that attention is often gained by an unexpected detail which breaks an established sequence; and that an incomplete description stimulates the reader to imaginative cooperation. An extremely subtle and complex method of evocative symbolism is Mr. T. E. Eliot's "objective correlative," in which "a set of objects, a situation, a chain of events" is communicated to the reader and in turn evokes in his mind "an experience which is quite literally beyond words."

Professor Pollock deprecates the assumption that evocative literature is intellectually lower than scientific writing and also the tendency of literary scholarship to stress linguistics, literary history, and other factual investigation while neglecting the analysis and evaluation of literature itself. He has presented his theory with lucidity and persuasiveness, defining his terms precisely, carefully summarizing each stage of his argument, and supporting his positions by apt quotations from literature and from recent authorities on linguistics, psychology, semantics and literary criticism. His style combines scientific method with literary grace, and the book is eminently readable.

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THE MARCH OF MEDICINE. No. VII, of The New York Academy of Medicine Lectures to the Laity. (New York: Columbia University Press, 1942.)

This is the seventh in the series of "Lectures to the Laity" published by the New York Academy of Medicine in their endeavour to include the layman in their educational plans. No one would disagree with the need for education of the public in regard to the way to avoid impaired health, illness and disease, but the method by which this can best be accomplished is open to much argument. It would seem that emphasis should be laid on the need of the layman knowing how good doctors and better doctors can be produced rather than how better medical laymen can be made. To inform the layman sufficiently to aid his understanding of the fundamentals of ill health is incredibly difficult, but he may be helped to recognize good doctors when he sees them and these lectures may assist him to realize that physicians cannot be merely sophisticated laymen.

In the introduction to this volume it is admitted that "the Laity Lectures are not altogether lay in expression" and one would agree that the majority of the lectures are readable by the profession with pleasure, and some with profit. James Miller's lecture on "Tuberculosis" is an excellent piece of work, being simple and complete. The same can be said of Norman Jolliffe's "The History of the B-Vitamins," and A. J. Carlson's "The Newer Knowledge of Nutrition," though in both, the layman will have to add considerably to his vocabulary. As all teachers of medicine realize, explanation must be within the compass of the pupils' own familiar phrases and this is where "Lectures to the Laity" fail. There is no difficulty in fascinating an audience in the mysteries of creation and of physiology, but it is quite another matter to impart knowledge. The spell-binding artistry is never easier than when revelling in the mysteries of the mind and the central nervous system. Tracy Putnam's lecture on "The Brain and the Mind" avoids all this. The difficult problem of explaining mind function on the basis of brain function is discussed, showing the evolution of the idea of "mind" with a visceral site, to the conception and proof of its being within the brain. There are objections to local areas in the brain performing functions even though various motor phenomena are regularly observed when certain sites are impaired or diseased. Large fields of brain substance can be removed with little or no change in the individual's behaviour or motor functioning. Huxley's "Conscious Automaton" theory shows more and more objections when intellectual and emotional phenomena are studied, and indeed the physiological explanation of psychological processes soon finds its way into philosophy. Chemico-physical systems reaching completeness fail to explain the complexity of mind which seems to follow. One can trace energy production to the border of mind but the method of liaison evades us. Physiology fails us when we contemplate "such phenomena as loyalty, ethics, æsthetic enjoyment and devotion to family and home." The lecturer quite neatly discusses the enormous gaps between the data of neurophysiology and those of psychology which await our bridging.

"The Freudian Epoch" by A. A. Brill is bound to be of interest since Dr. Brill first translated Freud's work and point of view and avoided many of the pitfalls of later disciples. These, grasping only the fringe of the argument, played with pieces of it in intellectual childishness. This would not matter so much if their open-mouthed audience comprehended what Freud really said, for his contribution to the understanding of human personality is great, while that of many of his small-statured disciples is not. Freud's work should limit them to

being introduced to the study of psychobiology and psychopathology. Using it as practical treatment of particular patients is too dangerous a weapon for innocent hands to wield. As Dr. Brill explains in this lecture assimilation has been slow and somewhat painful.

In "Genius Giftedness and Growth" Dr. Arnold Gesell attempts at first to show how a child's mind grows and where seeds of future giftedness and genius might be detected. There are rather interesting short notes on some gifted people. Coleridge is the poetic genius chosen since Prof. John Lowes. "The Road to Xanadn" is an excellent inquiry into what went on in Coleridge's mind when he wrote the "Ancient Mariner" and "Kubla Khan." Charles Darwin and Josiah Gibbs are examples of the scientific genius. Abraham Lincoln's growth to the full maturity of genius was delayed until he was forty-six years of age, while Herbert Melville was only thirty-two when he wrote "Moby Dick" and Dr. Gesell briefly analyses his development.

The lecturer then really lets himself go, forgets his audience and proceeds to probe the physiology of genius leaving his laymen ploughing hopelessly to the end of the evening in "metabolic gradients, potential differences, and an unifying electrodynamic field . . . ." etc.,—at least this reviewer was.

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PSYCHOSOMATIC MEDICINE, THE CLINICAL APPLICATION OF PSYCHOPATHOLOGY TO GENERAL MEDICAL PROBLEMS. By *Edward Weiss, M. D., and O. Spurgeon English, M. D.* (Philadelphia and London: W. B. Saunders Company, 1943.)

This book is the combined product of Dr. Edward Weiss, professor of clinical medicine, and Dr. O. Spurgeon English, professor of psychiatry. It is a compendious account of the relationship between the mental and especially the emotional, instinctive life of man and illness of every type. The first part of the book defines psychotherapy and divides it up into major and minor psychotherapy. The following chapters discuss personality development and psychopathology and a footnote states that the point of view stems from the fundamental contributions of Freud, his associates and students. In other words, the psychosomatics which is here developed is a modified form of Freudianism and might better be called "psychoanalytic somatics." Evidence of this occurs throughout the book. Thus the section on menstruation, urination, etc., deals largely with the utterly unproven psychoanalytic bases of these normal phenomena. It is alleged to be the belief of the girl that she is somehow or other going to be a boy, and the alleged frustration which takes place with the first menstrual period is stressed as if it were a fact rather than a conjecture.

In each section, the professor of clinical medicine gives a good account of the physiological background and knowledge concerning the condition in question. Thus, in the chapter on the cardiovascular system and hypertension, the relationship to arteriosclerosis, to kidney disease, the pathogenesis, peripheral resistance, experimental hypertension, the circulatory function of the kidney, and various newer phases of the subject are discussed with considerable detail. Then under "Psyche and Hypertension," the statement follows, "It is generally admitted that psychic factors play an important part in essential hypertension" (p. 114). I do not believe that this is true of essential hypertension. Naturally, every individual has psychic factors, if by this is meant he has a mental life, emotions, and the like, but the one thing that is known about essential hypertension is that it tends to be hereditary and is *essentially* independent of the type of life which the individual lives. It is undoubtedly true that emotional factors play a rôle in raising and lowering blood pressure, though they just as often reduce blood pressure as elevate it; but this is by no means equivalent to saying that emotions, etc., are important factors in hypertension. A statement like the following is the essence of irrelevant subtlety: "Therefore it may be said that in spite of the organic nature of experimental hypertension the psyche is not absolved as a factor in the etiology" (p. 114). No one doubts that the *factors of living* and the life experiences play a rôle in the development of any condition; and the psyche, if by this is meant the thoughts, emotional and instinctual experiences of the individual, plays a rôle; but what its rôle is, how much it contributes, is utterly unknown, and in essential hypertension the rôle is probably insignificant.

In the treatment of hypertension we find such things as rest and reassurance mingled with what the analysts are pleased to call "dynamic psychology," in that they find beneath the external friendliness and self-control of the hypertensive patient strong aggression and anxiety.

> "The anxiety grows out of the danger which these repressed aggressions would create for the security of the individual if they were allowed expression. It is as if the inner psychological tension (force) of the aggression found expression through heightened arterial pressure" (p. 114).

It is as if Dr. English were having a very good time exercising his ingenuity, because this interpretation is nothing more or less than ingenuity. One could make a dozen different explanations, just as valuable, in as many minutes.

The book does a useful service in bringing to the attention of the profession the fact that the emotional reactions of the individual, his life experiences, his frustrations, and his difficulties create bodily symptoms. That they may create bodily disease in the organic sense has not yet been proved of any disease whatsoever, except possibly gastric and duodenal ulcer—and here there may be very strong differences of opinion about the validity of the proof, though the brilliant experimental work of Wolf and Wolfe is highly significant. Typical of some of the reasoning of the book is case 16 (p. 154), where a woman has a spontaneous subarachnoid hemorrhage. It is shown that she had life difficulties—which does not seem very unusual—amongst which was that she had a lover. With this

background of trouble, she had a spontaneous subarachnoid hemorrhage and then, because some emotional situation had occurred during the day, that emotional situation becomes linked up as a causal agent of the subarachnoid hemorrhage, which is the very flimsiest kind of *post hoc* evidence. The book mingles such naïve cause and effect postulations with good clinical discussions.

Having seen a department of psychosomatics work in a general hospital, I can only say that the startling ingenuity of interpretation in all kinds of cases has bred great distrust of the value of the conceptions of psychosomatics. Thus one psychosomaticist, laboring under the assumption that people with a hidden sense of guilt seek to punish themselves in some symbolic way, discovered that a patient who repeatedly fell down and had ankle strain was punishing herself by these missteps for certain *missteps* which she had made in her moral life. Nothing so gross as this occurs in this book, but approaches to this easy symbolism and poetic license occur quite frequently.

At this point it is pertinent to emphasize that, just as there is a psychosomatics, if by this is meant that psychological experience—using this term in a wide sense—creates bodily disturbance, so there is a somatopsychics, in that the nature of the bodily structure, *i.e.*, the constitution, determines the kind of psychological reactions the individual will show under the circumstances of his life. Thus a beautiful woman means nothing particularly sensual to a baby. To the mature male she has immense, often controlling importance in directing the life activity. In old age, the Venus de Milo elicits only regret and reminiscence. In other words, the somatic structure at different periods of life governs the kind of experience which the individual will seek and, in consequence, have. The constitution of the individual, that is, his somatic build-up, determines in considerable measure how he will react and the experiences he will seek. There are people who are born with almost no hunger of any kind. They never greatly desire anything. They are fundamentally anhedonic and timid. The kind of experiences and emotional reactions they will seek and have in life will be at the opposite pole from those of an individual full of the fire of instinctive drive and ready to explode emotionally in diverse ways.

In judging whether or not an emotion created a bodily disturbance, a parallel question, and one fully as important, is this: whether or not the bodily structure of the individual was not at least one of the bases of the emotional, psychological disturbance, which in its turn reacted on the organism.

It is a pity that this book did not confine itself to psychosomatics, which is a useful and needed concept of medicine. By becoming in fact psychoanalytic somatics, it runs into all the difficulties which the unproven and conjectural brings into a scientific field. However, when all is said and done, the book is stimulating and valuable and should be read by everyone interested in the total growth of medicine.

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HISTORY OF MEDICAL PSYCHOLOGY. By *Gregory Zilboorg, M.D.*, in collaboration with *George W. Henry, M.D.* (New York: W. W. Norton & Co., Inc., 1941.)

This work is the most ambitious and comprehensive review of the history of psychiatry that has appeared in English.

At the outset the author gracefully pays tribute to Dr. Thomas W. Salmon who gave earliest encouragement to the undertaking. That was in 1926, from which date the material for the book was accumulating.

After a somewhat Shavian prologue the history begins with "Primitive and Oriental Medical Psychologies," although insofar as the primitive is concerned it is admitted that our knowledge is "less than fragmentary." Somewhat ampler are the references in Hebrew and Hindu literature. Then comes the climax with the Greeks and Romans of the great epoch of the medicine of antiquity which gave us certain concepts relative to mental disorder as sound as any that are held today.

After Galen came "The Great Decline" in which "medical psychology as a legitimate branch of the healing art practically ceased to exist. It was recaptured by the priest and incorporated into his theurgic system . . . . psychiatry finally became a study of the ways and means of the devil and his cohorts." Demonology was the preoccupation of the Christian world, and with the Church supreme, its dicta passed over into secular laws; "the treatment of the mentally ill became for the most part a problem of legal procedure. The darkest ages of psychiatry set in . . . . on the very eve of the Renaissance."

A chapter is devoted to the "Witches Hammer," the *Malleus Maleficarum*, which appeared late in the 15th century, became the textbook of the Holy Inquisition and remained the guide by which the actions of men and especially women, including the behavior of the mentally disturbed, were judged and dealt with for more than 200 years. This book, product of the depraved minds of two German monks, a German university professor, Carl Binz, writing 400 years later, describes as "a heavy volume in quarto. So insane, so raw and cruel, and it leads to such terrible conclusions, that never before or since did such a unified combination of horrible characteristics flow from a human pen."

Progress in the 16th century in the understanding of man Zilboorg discusses in much detail as "The First Psychiatric Revolution." He gives credit to Vives, the Spaniard (b. 1492), for discovering and describing the associations almost a century before Hobbes. The great name of the century in relation to psychological-spiritual matters is that of the physician, Johann Weyer (b. 1515) who dealt a devastating blow to the belief in miracles, demonology and witchcraft and laid the foundation for modern psychopathology. The majority of "witches," he maintained, were sick persons who should be turned over, not to the exorcist or executioner, but to the physician for treatment.

Weyer was an outstanding pioneer in the use of the method later called psychotherapy. His *De Praestigiis Daemonum* was both refutation and antidote to the mischievous *Malleus Maleficarum*. His was a determining influence in liberating medical psychology from the shackles of theology. For more than 300 years his *magnum opus,* one of the epoch-making books of all time, remained on the Index of Prohibited Books of the Roman Catholic Church.

With the 17th century the modern scientific method came into being and began to bear fruit; but with the increasing study of man as a physical organism, insight into the nature of psychological disorders lagged relatively behind and the drastic empirical treatment of earlier days continued. Finally the 18th century gave us Pinel, Tuke and Rush. By the end of the century also are found hospitals for the care other than merely for the herding of the mentally ill.

In a chapter entitled "The Discovery of Neuroses," beginning with the romantic history of mesmerism, the development of psychopathology and psychotherapy is traced. The organicist dogma in medicine obstructed professional acceptance of psychological methods and of psychology itself as a possible contributor to medical science. The apparent charlatanism of Mesmer did not facilitate this acceptance. Braid succeeded Mesmer with hypnotism, and Liébeault followed Braid in Nancy. After Liébeault came his pupil Bernheim who demonstrated suggestion, particularly waking suggestion, as the effective means of treating neurotic states, and also as the cause of such artificial phenomena as the hysteric phases of Charcot. The teachings of Bernheim are probably the soundest basis of psychotherapy to date.

The 19th century was an era of classification systems and of enormous expansion of psychiatric activity in many directions—of extensive hospital building, of reforms in treatment methods based on a changed social attitude toward mental derangement, of a rapidly growing psychiatric literature and the founding of national societies. "From 1818 to 1893 almost fifty journals, monthly, quarterly and yearly, appeared in France, England, Germany, the United States, Spain, Portugal, Italy, the Netherlands, Belgium, Scandinavia and Russia. Over fifteen national and international psychiatric societies were organized on the European continent and in the New World." France maintained the leadership during the first part of the century; then for a time one may say that England and France disputed the leadership; later it was assumed by Germany; in the 20th century it has passed to the United States.

The 20th century Zilboorg gives to Freud, as all good psychoanalysts do; and it cannot be gainsaid that Freud has exerted a tremendous influence upon many of the psychiatrists of our time. But there are also those who suspect that the peak of the Freudian movement has been reached and that a diminishing vogue may be anticipated. The author accepts the fact that psychoanalysis, after 50 years, is still a controversial issue; he does not try to persuade himself or his readers that its claims are no longer disputed or that the battle is won. His discussion of the contemporary scene he judicially calls a "survey of the battlefield of thought while the battle is still on," and he refers to the "severe opposition, which has far from subsided." He faithfully records the fact that psychoanalysis was never accepted in pre-Hitlerian German universities nor in those of France. With true historic sense he states that the position of psychiatry of our generation can be evaluated only when it has already become a matter of the past. His conclusion seems fair enough for all to accept: "What the future of psychoanalysis will be, what its significance and role in the formation of a general scientific psychology normal or abnormal will be, is impossible to say. The judgment of the contemporary is apt to be wrong whether he be an opponent or proponent of psychoanalysis."

The last two chapters in this history, "Organic Mental Diseases" and "Mental Hospitals," were written by Dr. Henry. Here we find a full development of the dramatic story of general paresis from Thomas Willis and Haslam to Wagner-Jauregg. The institutional treatment of mental patients is also traced down through the centuries.

This is a very scholarly book and represents a vast deal of reading and research. It demands leisurely perusal. The hurried reader may find it almost too scholarly at times, in that the author to give each incident, trend or character the proper setting brings in much of the social, scientific, philosophical and theological background, and often pauses for overlong discussion of collateral developments. It is all interesting and valuable however and all related, even if sometimes remotely, in a really remarkable historic perspective.

Incidentally it is difficult to forgive the author for venturing the diagnosis of schizophrenia in the case of Socrates (p. 45).

C. B. F.

IN MEMORIAM

ALLEN ROSS DIEFENDORF

1871-1943

The death of Dr. Allen Ross Diefendorf, former professor of psychiatry at Yale University, on July 30, 1943, brings to mind not only the psychiatry of the present but that of thirty-five years ago.

In 1908, when I first entered the field of psychiatry, Dr. Diefendorf's translation of Kraepelin's "Clinical Psychiatry" was the book of the day. This and other contributions in the field of psychiatry have come from the pen and person of Dr. Diefendorf. Among his important rôles was that of pioneer in the mental hygiene movement, collaborating with Clifford Beers the lay founder of this great drive in the direction of a better understanding and better care for the mentally ill. Dr. Diefendorf was among those responsible for founding the Connecticut Society for Mental Hygiene, the first unit of the national movement.

For a quarter of a century he was an outstanding figure among those medical men making up the faculty of Yale University's School of Medicine. During the first World War Dr. Diefendorf headed a special commission at Camp Davis, Massachusetts, for handling the neuropsychiatric problems among the military personnel. This also was in the nature of a pioneer endeavor, of which in my opinion the present day thought is reminiscent.

Dr. Diefendorf came into popular acclaim at the time of the famous Thaw murder trial, when he was asked by the court to deliver an opinion on the sanity of the defendant. He declared that in his opinion the slayer of Stanford White was insane, a view which the court adopted.

Dr. Diefendorf was born at Savannah, New York, in 1871, the son of Fletcher A. Diefendorf, a former member of the New York State Legislature, and Susan Diefendorf. He was graduated from Yale University Medical School in 1896, and shortly afterward was appointed to the staff of the Worcester Insane Hospital (Worcester, Massachusetts). For several years he was a member of the medical staff of the Connecticut State Hospital in Middletown. He was a member of the Courtesy Staff of the Institute of Living.

Dr. Diefendorf made a very real contribution to the science as well as the art of psychiatry, which contribution was more apparent to the men of my own generation who profited by his endeavors.

C. C. BURLINGAME.

ISADOR H. CORIAT

1875-1943

Dr. Isador H. Coriat of Boston died May 26 in his sixty-eighth year, of coronary thrombosis. On that same evening he had been elected president of the Boston Psychoanalytic Society. Born December 10, 1875, in Philadelphia, he moved to Boston at an early age. He received his medical degree from Tufts Medical College in 1900 and spent the next five years at the Worcester State Hospital. Returning to Boston in 1905 he became a member of the neurological staff of the Boston City Hospital until 1919, of the Mount Sinai Hospital until 1914, consulting neurologist to the Chelsea Memorial and to Beth Israel Hospitals from 1919 to 1928, instructor in neurology at Tufts from 1914 to 1916. In 1904 he married Etta Dahn who died in 1934. There were no children.

From the first his approach to psychiatry was psychological and psychotherapeutic as was shown by his work with Morton Prince and his collaboration in the Emmanuel Movement, brought to this country from England by Drs. Worchester and McComb. With

these two he collaborated in a book: "Religion and Medicine: The Moral Control of the Nervous System" (1908). His interest in psychoanalysis, already aroused, became permanently fixed by the visit of Freud to Clark University in 1909. From that time on he carried on an analytic practice and wrote a number of books to popularize the new doctrines. In this way he established a national reputation as one of the pioneer analysts of this country. The stigma attached to that period to psychoanalysis prevented for a number of years his becoming a member of the more conventional societies. In 1928 he began the founding of the Boston Psychoanalytic Society and after its organization in 1930 became its president until 1932. At the time of his death he was a trustee, librarian and chairman of the Educational Committee and an instructor in the Boston Psychoanalytic Institute. He was twice president, 1924-1925 and 1936-1937, of the American Psychoanalytic Association, member and vice-president, 1931-1932, of the American Psychopathological Association, vice-president of the International Psychoanalytic Association, 1936-1937, member of The American Psychiatric Association, of the New England Society of Psychiatry, and of the Boston Society of Neurology and Psychiatry. An erudite, kindly and sincere friend he will be greatly missed.

GEORGE B. WILBUR.

IRA S. WILE

1877-1943

Dr. Ira S. Wile, psychiatrist, sociologist, educator and author died in New York City October 9, 1943, after a brief illness. He was an unusual man who managed to fit several careers into a busy lifetime. Born in Rochester, New York, he received his A. B. and B. S. degrees from the University of Rochester in 1898, and his M. D. degree in 1920 at the University of Pennsylvania. In 1904 he came to New York and worked with Dr. Holt in the pediatric department of Columbia University. From 1912 to 1916 he was a member of the New York City Board of Education. He was deeply interested in the health of children and served as a member of the New York Milk Committee and was founder of the New York school lunch system at the Manhattanville nursery. He was vice-president of the Children's Welfare Federation and President of the National Round Table for Speech Improvement.

Dr. Wile served for many years as associate in pediatrics and child psychiatry at the Mt. Sinai Hospital, where in 1919, he established the first child guidance clinic attached to a pediatric service of a general hospital.

His medical and psychiatric experience was exceptionally broad; he served as medical officer at a general hospital an infants hospital, a prison, a workhouse, an almshouse and a home for incurables. As a lecturer he appeared before the American Public Health Association, the American Social Hygiene Association, the New York School for Social Research, the College of Physicians and Surgeons, Columbia and Hunter Colleges.

For many years he was editor of the *Medical Review of Reviews;* he was also associate editor of the *American Journal of Orthopsychiatry* and *The Nervous Child.* Among his books were "Sex Education" (1912); "The Challenge of Childhood" (1925); "Marriage in the Modern Manner" (1929); "The Man Takes a Wife" (1937). He edited "Sex Life of the Unmarried Adult," "Personality Development and Social Control in Terms of Constitution and Culture" and "The Challenge of Adolescence."

He was a member of the National Committee for Mental Hygiene, the American Public Health Association, the American Academy of Political Science, the American Child Health Association, The American Psychiatric Association and many other national and international societies. In 1932 he was president of the American Orthopsychiatric Association, and he served on the Medical Council of the Planned Parenthood Federation.

With all his active professional career he was a devoted husband and father. His wife,

Mrs. Saida Rigby Wile, two sons, Lieutenant Alan R. Wile, U.S.N.R., and Private Ira R. Wile, U. S. Army, and a daughter, Mrs. Mildred W. Hirsh, survive.

Dr. Ira Wile was a kind, understanding, witty, distinguished physician, an able leader, widely respected and warmly admired. His energy, counsel and vision will be missed in American psychiatry.

S. Bernard Wortis.

THEODORE DILLER

1863–1943

Dr. Theodore Diller, of Pittsburgh, died October 6, 1943, after several years of failing health, in spite of which he continued to be active, and as his last contribution gave much needed help at the Induction Center in Altoona. Dr. Diller was born of rugged Pennsylvania Dutch stock in Lancaster County, about 80 years ago. He graduated from the University of Pennsylvania in 1886, took his internship at the Philadelphia Hospital, and after a short period of practice in Lancaster was a resident physician at the Danville State Hospital. In 1890 he came to Pittsburgh and gradually devoted himself to the practice of neuropsychiatry until he early became one of the most aggressive and prominent physicians in his specialty. A large amount of clinical material, particularly in outpatient departments or hospitals, was not at that time available, but he was an ardent student of Gower and Charcot, and was familiar with the French and German publications. Belonging to the prominent group of neuropsychiatrists studying the various clinical syndromes, especially in neurology, he made substantial contributions to the literature and to the programs of national associations, particularly the American Neurological and the American Psychiatric Associations, of which he was a member. He pioneered many movements in his local community and was largely responsible for founding the Pittsburgh Neuropsychiatric Society.

Not having the advantage of a college education, Dr. Diller became a well educated man through his wide interests in books, and also in religious thought and activities in the Episcopal denomination. He was, above all, a student of Franklin and Montaigne, from whom he developed a philosophical attitude toward life, which made him always an interesting and helpful companion and physician. He liked the company of people, both lay and professional, and would frequently escape from the routine of practice to make short or long journeys in search of the stimulus of prominent and successful friends. In the later years of his life, after his professional responsibilities diminished, he developed this particular side of his character, and in addition found recreation and satisfaction in his medical and nonmedical writing. Of his publications may be mentioned "Franklin's Contributions to Medicine," "Pioneer Medicine in Western Pennsylvania" and "The Place of Washington in the History of Western Pennsylvania."

Dr. Miller married Rebecca Craig, a descendant of one of the oldest of Pittsburgh families. She died early and left three young children, to whose physical, intellectual and spiritual needs the father immediately devoted himself with as much knowledge and flexibility as even our most up to date child guidance principles could endorse.

Most of our large cities in Dr. Diller's period of activity had one or more similar personalities, all of whom were his friends. All but a few have passed on, and all of them were forceful pioneers in the field that has broadened, year by year, surely beyond their imagination.

George J. Wright, M. D.,
Pittsburgh, Pa.